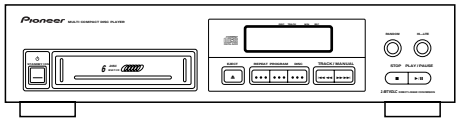
Service Manual



ORDER NO.
RRV2122

MULTI COMPACT DISC PLAYER

PD-M427

PD-M407

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	PD-M427	PD-M407		
WPWXJ	○	○	AC220–240V	————
RDXJ	○	○	AC110–127V/220–240V	With the voltage selector

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

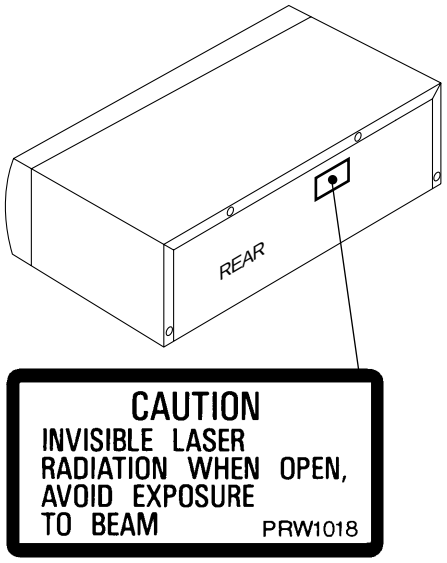
IMPORTANT

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780 – 785 nm

LABEL CHECK



WPWXJ type Only

Additional Laser Caution

1. Laser Interlock Mechanism
   The ON/OFF (ON: low level, OFF: high level) status of S601 (LPS1) and S602 (LPS2) switches for detecting the loading state is detected by the system microprocessor, and the design prevents laser diode oscillation except when both switches S601 and S602 are ON (low level or clamped state).
   Thus, interlock will no longer function if switches S601 (LPS1) and S602 (LPS2) are deliberatery shorted (low level). The interlock also does not function in the test mode*.

   Laser diode oscillation will continue, if pin 33 of CXA1782CQ (IC151) on the MOTHER BOARD ASSY is connected to GND, or pin 50 of IC351 (LDON) is connected to low level (ON), or else the terminals of Q151 are shorted to each other (fault condition).

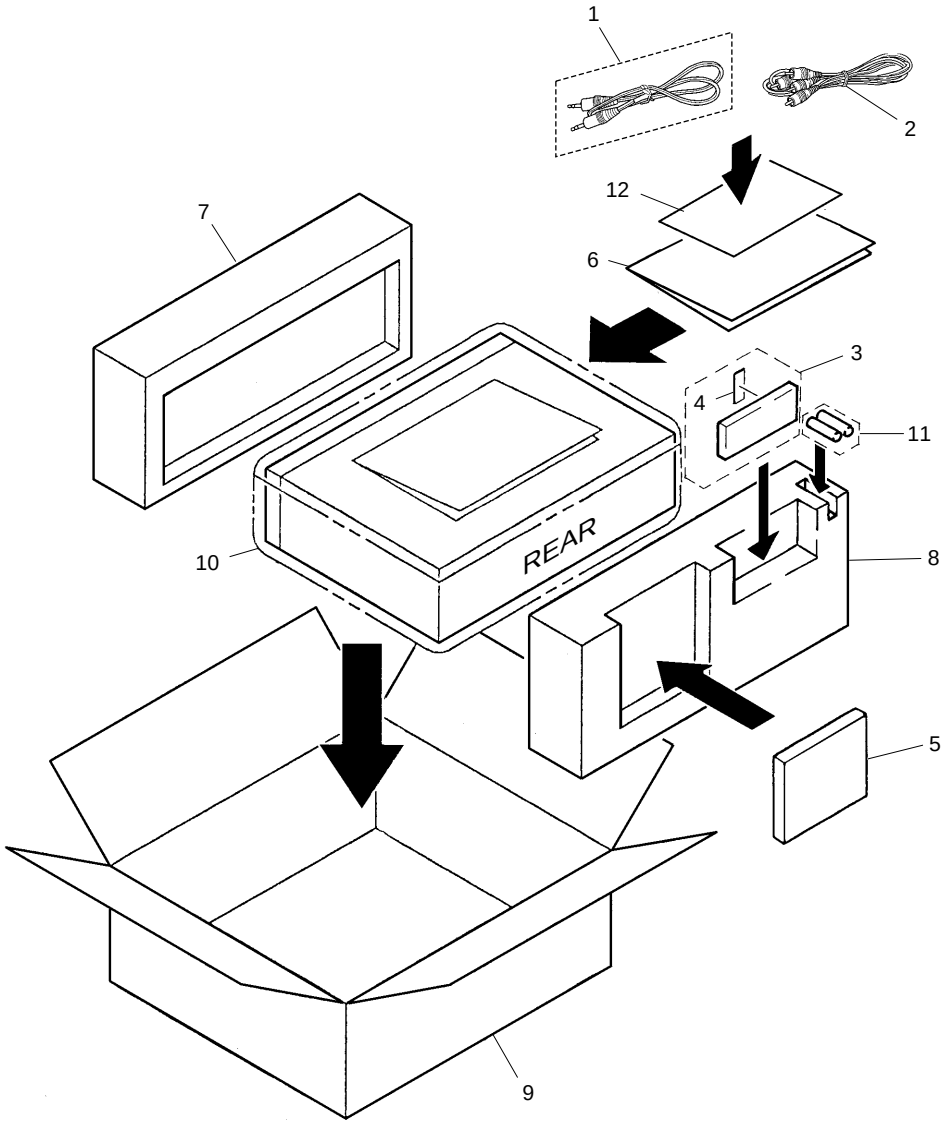
2. When the cover is opened with the servo mechanism block removed to be turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* Refer to page 22.

2. EXPLODED VIEWS AND PARTS LIST

NOTES : ● *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screw adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

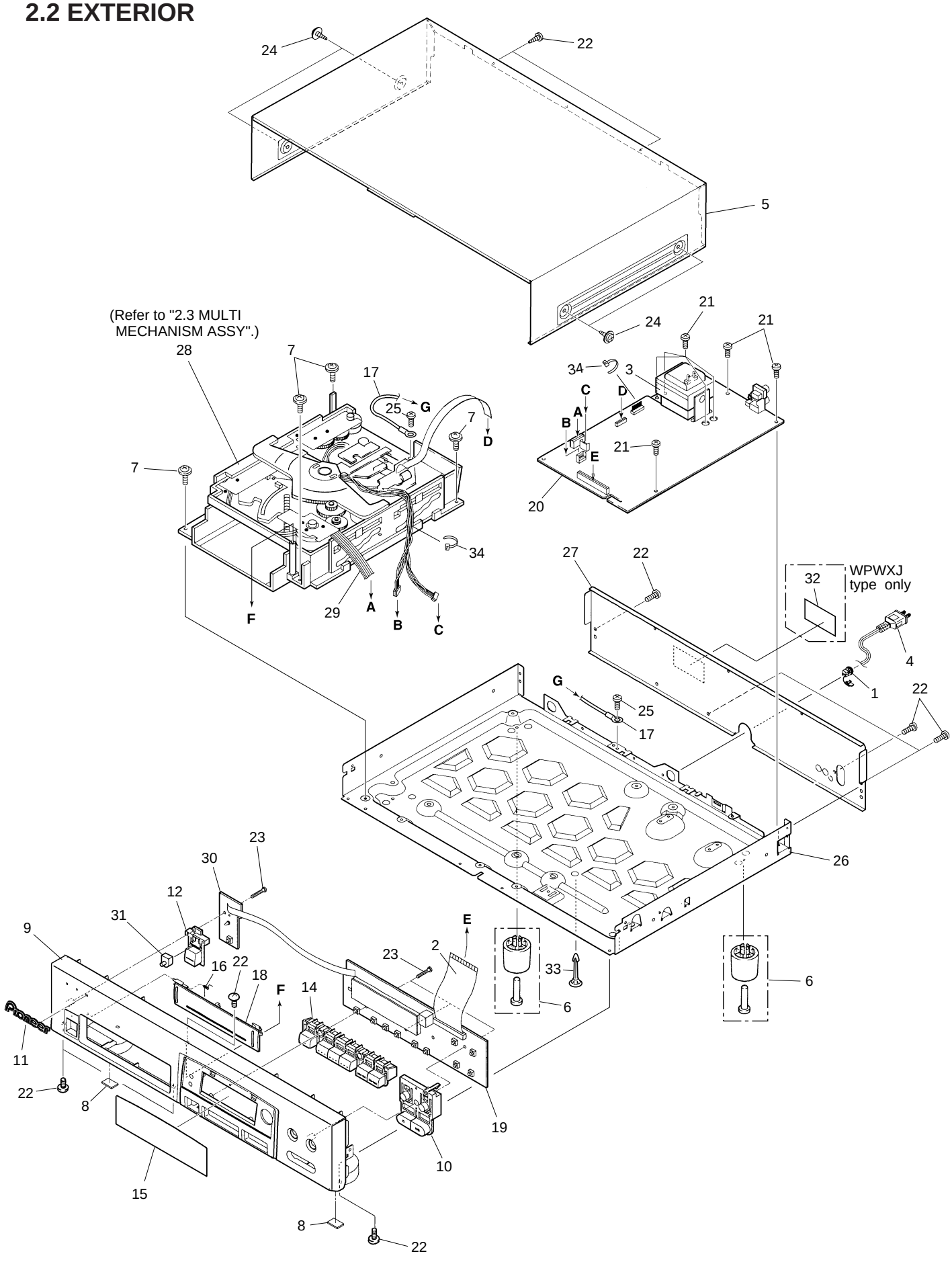
Mark	No.	Description	Parts No.
	1	Control Cable (for SR) (L=1 m)	See Contrast table (2)
	2	Output Cable (L=1 m) (for AUDIO)	PDE1248
	3	Remote Control Unit (CU-PD104)	See Contrast table (2)
	4	Battery Cover	See Contrast table (2)
	5	6-Compact Disc Magazine	PXA1617
	6	Operating Instructions	See Contrast table (2)
	7	Styrol Protector (F)	PHA1276
	8	Styrol Protector (R)	PHA1277
	9	CD Packing Case	See Contrast table (2)
	10	Mirror Mat Sheet (750X600X0.5)	Z23–007
NSP	11	Dry Cell Battery (AAA/R03)	See Contrast table (2)
	12	Caution 220V Label	See Contrast table (2)

(2) CONTRAST TABLE

PD-M427/WPWXJ, RDXJ, PD-M407/WPWXJ and RDXJ are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			PD-M427		PD-M407		
			WPWXJ	RDXJ	WPWXJ	RDXJ	
	1	Control Cable (for SR) (L=1 m)	Not used	PDE1247	PDE1247	PDE1247	
	3	Remote Control Unit (CU-PD104)	PWW1149	PWW1149	Not used	Not used	
	4	Battery Cover	PZN1010	PZN1010	Not used	Not used	
	6	Operating Instructions (English)	PRB1288	Not used	PRB1288	Not used	
	6	Operating Instructions (English/Spanish/Chinese)	Not used	PRE1281	Not used	PRE1281	
	9	CD Packing Case	PHG2373	PHG2373	PHG2371	PHG2371	
NSP	11	Dry Cell Battery (AAA/R03)	VEM-022	VEM-022	Not used	Not used	
	12	Caution 220V Label	Not used	ARR1003	Not used	ARR1003	

2.2 EXTERIOR


24
22
5
(Refer to "2.3 MULTI MECHANISM ASSY".)
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WPWXJ type only
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(1) EXTERIOR PARTS LIST

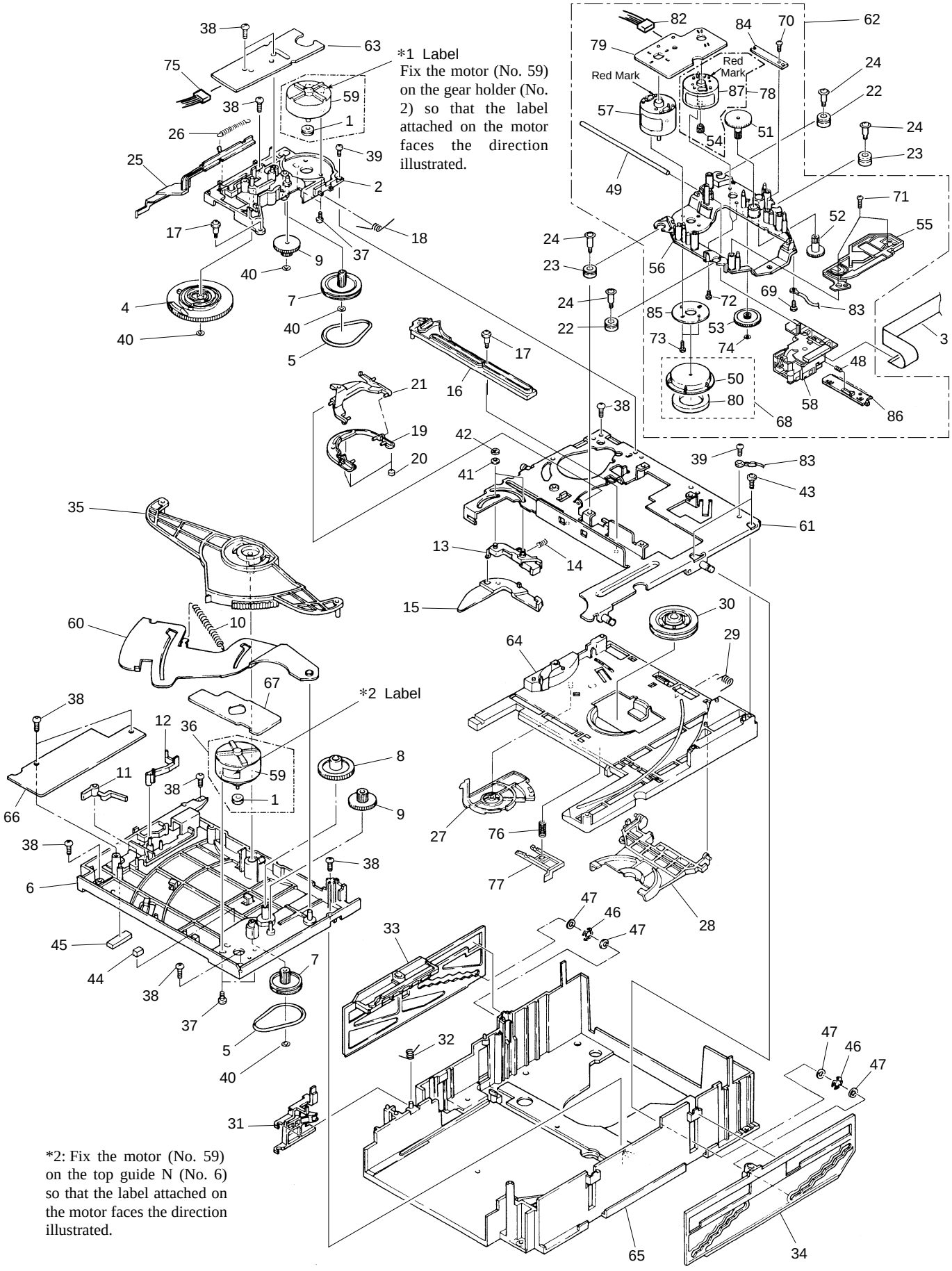
Mark	No.	Description	Parts No.
⚠	1	Strain Relief	CM–22B
	2	F.F.C/30V	See Contrast table (2)
⚠	3	Power Transformer	See Contrast table (2)
⚠	4	AC Power Cord	See Contrast table (2)
	5	Bonnet	PYY1149
	6	Foot Assy	AEC1531
	7	Screw	IBZ30P080FCC
	8	Rubber Sheet	AEB1111
	9	Function Panel	See Contrast table (2)
	10	Play Button	PAC1766
	11	Name Plate	PAM1776
	12	Power Button	PAC1719
	13	……	
	14	Track Button	PAC1765
	15	Display Window	See Contrast table (2)
	16	Spring (Door)	PBH1022
NSP	17	Earth Lead Unit	DE007VF0
	18	Door	PNW2598
	19	FUNCTION BOARD Assy	See Contrast table (2)
⚠	20	MOTHER BOARD Assy	See Contrast table (2)
	21	Screw	BBZ30P060FMC
	22	Screw	BBZ30P080FZK
	23	Screw	PPZ30P120FMC
	24	Screw	FBT40P080FZK
	25	Screw	PDZ30P050FMC
NSP	26	Under Base	PNA1751
	27	Rear Base	See Contrast table (2)
NSP	28	Multi Mechanism Assy	PXA1592
	29	Flat Cable (6P)	D20PYY0615E
NSP	30	SW BOARD Assy	PWZ2805
	31	LED Lens	PNW2019
	32	Caution Label	See Contrast table (2)
NSP	33	Locking Card Spacer	PEC1036
	34	Binder	ZCA-SKB90BK

(2) CONTRAST TABLE

PD-M427/WPWXJ, RDXJ, PD-M407/WPWXJ and RDXJ are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			PD-M427		PD-M407		
			WPWXJ	RDXJ	WPWXJ	RDXJ	
	2	32P F · F · C/30V	PDD1041	PDD1041	Not used	Not used	
	2	30P F · F · C/30V	Not used	Not used	PDD1049	PDD1049	
⚠	3	Power Transformer	PTT1236	PTT1238	PTT1236	PTT1238	
⚠	4	AC Power Cord	ADG1123	PDG1013	ADG1123	PDG1013	
	9	Function Panel	PNW2913	PNW2913	PNW2912	PNW2912	
	15	Display Window	PAM1798	PAM1798	PAM1797	PAM1797	
	19	FUNCTION BOARD ASSY	PWZ2769	PWZ2769	PWZ2768	PWZ2768	
⚠	20	MOTHER BOARD ASSY	PWM2156	PNW2155	PNW2153	PNW2152	
	27	Rear Base	PNA2501	PNA2500	PNA2499	PNA2498	
	32	Caution Label	PRW1018	Not used	PRW1018	Not used	

2.3 MULTI MECHANISM ASSY



*2: Fix the motor (No. 59) on the top guide N (No. 6) so that the label attached on the motor faces the direction illustrated.

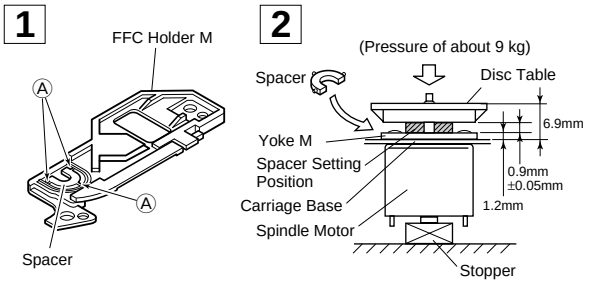
MULTI MECHANISM ASSY PARTS LIST

Mark	No.	Description	Parts No.
	1	Motor Pulley	PNW1634
	2	Gear Holder	PNW1929
	3	PU PWB (POLYIMDE)	PNP1442
	4	Cam Gear	PNW1923
	5	Belt	PEB1138
	6	Top Guide N	PNW2441
	7	Gear Pulley	PNW1918
	8	Gear S	PNW1919
	9	Gear L	PNW1920
	10	Eject Spring	PBH1107
	11	SW Lever	PNW1927
	12	Seven Bar	PNW1931
	13	Sub Revolving Lever	PNW1933
	14	Sub Revolving Lever Spring	PBH1111
	15	Revolving Lever	PNW1932
	16	Drive Plate	PNW1930
	17	Motor Screw	PBA–112
	18	Holder Lever Spring	PBH1110
	19	Disc Holder	PNW1924
	20	Cushion A	PED1001
	21	Holder Lever	PNW1925
	22	Float Rubber	PEB1014
	23	Float Rubber	PEB1132
	24	Float Screw	PBA1073
	25	Release Lever	PNW1934
	26	Release Spring	PBH1106
	27	Clamper Cam	PNW1922
	28	Clamper Holder	PNW1921
	29	Centering Spring	PBH1109
	30	Clamper	PNW2774
	31	Lock Lever	PNW1917
	32	Lock Spring	PBH1108
	33	Stair NL	PNW2443
	34	Stair NR	PNW2444
	35	Synchronize Lever	PNW1926
	36	Motor Assy (LOADING, DISC SELECT)	PEA1130
	37	Screw	PMZ26P040FMC
	38	Screw	PPZ30P080FMC
	39	Screw	BBZ30P060FMC
	40	Washer	WT26D047D025
	41	Washer	WA31D054D025
	42	E Ring	Z39–010
	43	Screw	IPZ30P080FMC
	44	Spacer (Rubber)	PEB1238
	45	Spacer (Rubber)	PEB1179
	46	Silent Ring	PBK1093
	47	Washer	WA62D130D025
	48	Rack Spring	PBH1128
	49	Guide Bar	PLA1094
	50	Disc Table	PNW1067
	51	Gear 1	PNW2052
	52	Gear 2	PNW2053
	53	Gear 3	PNW2054
	54	Pinion Gear	PNW2055
	55	FFC Holder M	PNW2746
	56	Carriage Base	PNW2699
	57	D.C. Motor Assy (Spindle with oil)	PEA1235
	58	Pickup Assy	PEA1335
	59	Carriage Motor	VXM1033
	60	Eject Lever	PNB1306
	61	Upper Chassis	PNB1267
NSP	62	Servo Mechanism Assy M	PXA1595
NSP	63	LOADING BOARD Assy	PWZ2038
	64	Sub Chassis N	PNW2440
	65	Main Chassis	PNW2074
NSP	66	SELECT BOARD Assy	PWZ2533
NSP	67	MOTOR BOARD Assy	PWZ2040
	68	Disc Table Assy	PEA1035
	69	Screw	BBZ26P060FMC
	70	Screw	BPZ20P060FMC
	71	Screw	BPZ26P100FMC
	72	Screw	JFZ17P025FZK
	73	Screw	JFZ20P040FMC
	74	Washer	WT12D032D025
	75	Connector Assy	PDE1241
	76	Stopper Spring	PBH1131
	77	Stopper	PNW2069
	78	D.C. Motor Assy (CARRIAGE)	PEA1246
NSP	79	MECHANISM BOARD Assy	PWX1192
	80	Clamp Magnet	PMF1014
	81	……	
	82	Connector Assy	PDE1240
NSP	83	Earth Lead Unit	PDF1118
	84	Gear Stopper	PNB1303
	85	Yoke M	PNB1312
	86	Rack Holder	PNW2056
	87	Carriage DC Motor	PXM1027

● How to Install the Disc Table

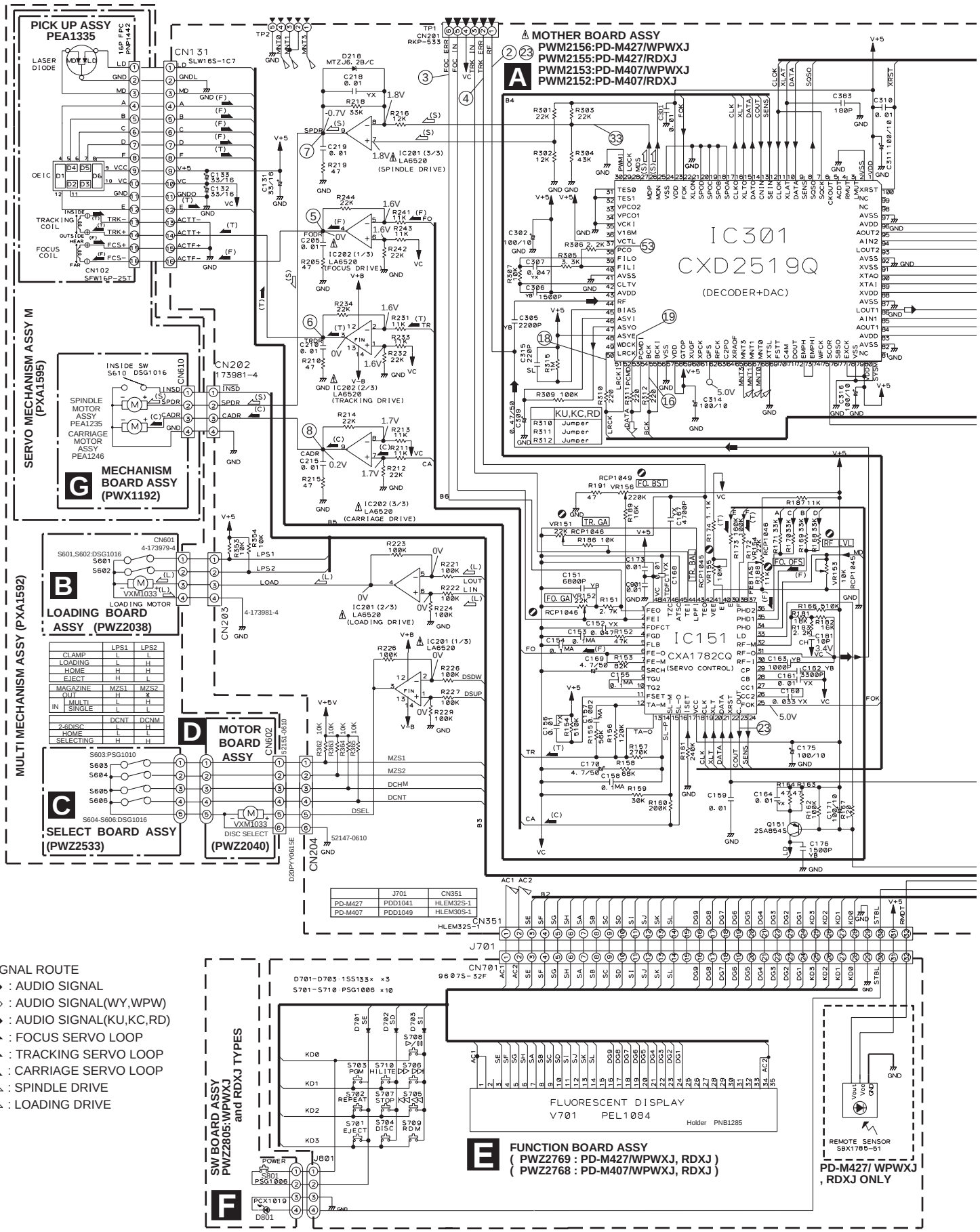
1 Use nipper or other tool to cut the three sections marked Ⓐ in figure 1. Then remove the spacer

2 While supporting the spindle motor shaft with the stopper, put spacer on top of the yoke M, and stick the disc table on top (takes about 9kg pressure). Detach the spacer.



3. SCHEMATIC DIAGRAM

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

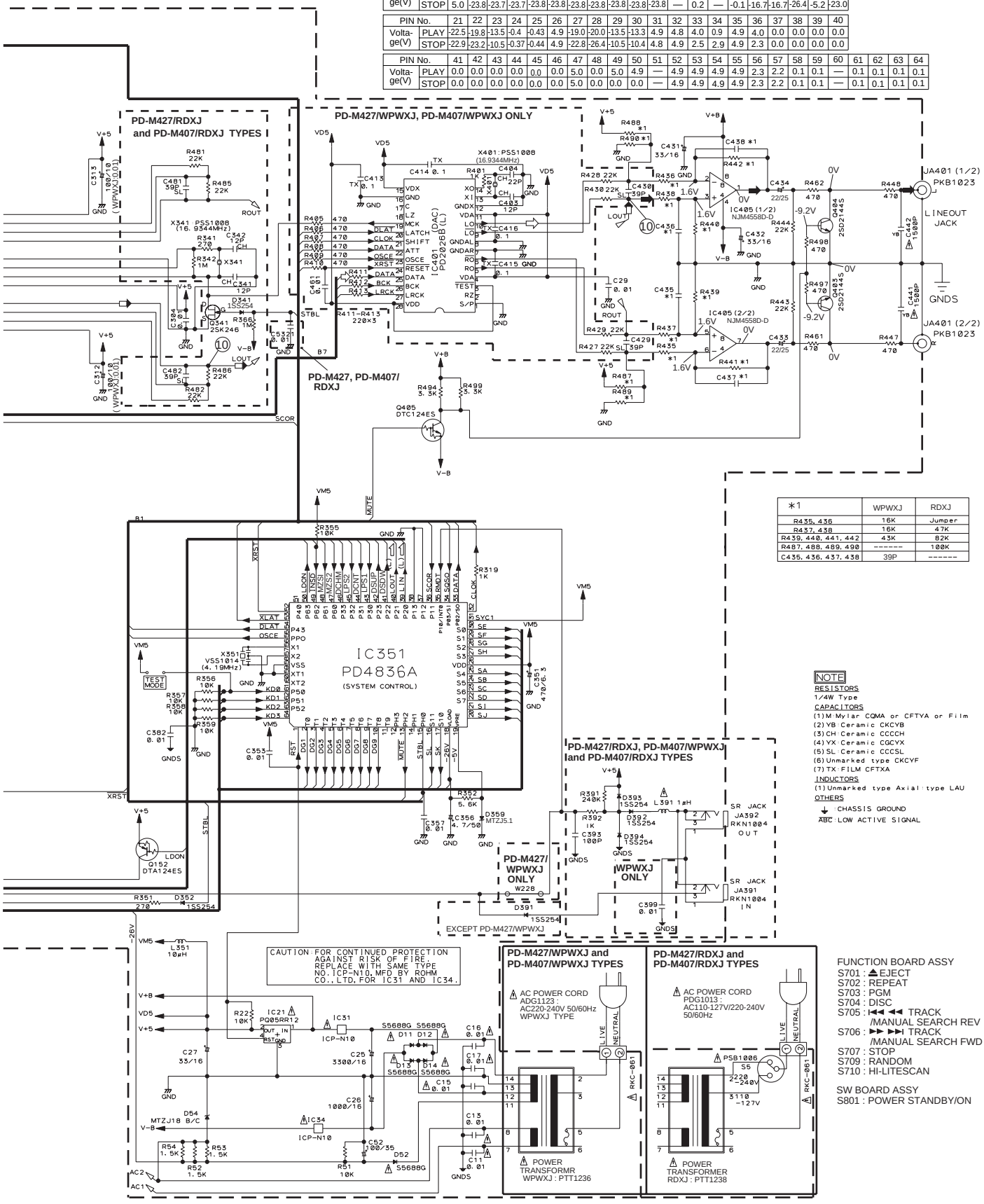


IC351(PD4836A) PLAY:1DISC PLAY.

PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage(V)	PLAY	5.0	-23.2	-23.2	-23.2	-23.2	-23.2	-23.2	-23.2	-23.2	-23.2	-23.2	—	4.9	—	-0.1	-16.8	-17.0	-25.9	-5.2	-22.2
	STOP	5.0	-23.8	-23.7	-23.7	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	-23.8	—	0.2	—	-0.1	-16.7	-16.7	-26.4	-5.2	-23.0

PIN No.		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage(V)	PLAY	22.5	-19.8	-13.5	-0.4	-0.43	4.9	-19.0	-20.0	-13.5	-13.3	4.9	4.8	4.0	0.9	4.9	4.0	0.0	0.0	0.0	0.0
	STOP	22.9	-23.2	-10.5	-0.37	-0.44	4.9	-22.8	-26.4	-10.5	-10.4	4.8	4.9	2.5	2.9	4.9	2.3	0.0	0.0	0.0	0.0

PIN No.		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Voltage(V)	PLAY	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	4.9	—	4.9	4.9	4.9	4.9	2.3	2.2	0.1	0.1	—	0.1	0.1	0.1	0.1
	STOP	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	—	4.9	4.9	4.9	4.9	2.3	2.2	0.1	0.1	—	0.1	0.1	0.1	0.1



∗1	WPWXJ	RDXJ
R435, 436	16K	Jumper
R437, 438	16K	47K
R439, 440, 441, 442	43K	82K
R487, 488, 489, 490	------	100K
C435, 436, 437, 438	39P	------

NOTE
RESISTORS
1/4W Type
CAPACITORS
(1) M: Mylar COMA or CFTVA or Film
(2) YB: Ceramic CKCYB
(3) CH: Ceramic CCCCH
(4) YX: Ceramic CGCYX
(5) SL: Ceramic CCCSL
(6) Unmarked type CKCYF
(7) TX: FILM CFTXA
INDUCTORS
(1) Unmarked type Axial type LAU
OTHERS
CHASSIS GROUND
ABC: LOW ACTIVE SIGNAL

FUNCTION BOARD ASSY
S701 : ⏏ EJECT
S702 : REPEAT
S703 : PGM
S704 : DISC
S705 : ⏮ ◀◀ TRACK /MANUAL SEARCH REV
S706 : ▶▶ ⏭ TRACK /MANUAL SEARCH FWD
S707 : STOP
S709 : RANDOM
S710 : HI-LITESCAN

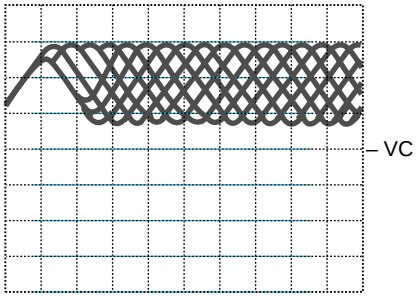
SW BOARD ASSY
S801 : POWER STANDBY/ON

A Waveforms (Mother Board Assy)

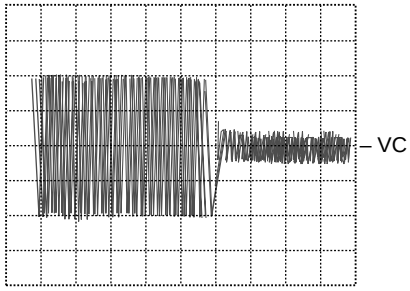
Note: The encircled numbers denote measuring point in the schematic diagram.

∗1 50T-JUMP: After switching to the pause mode, press the manual search key.
∗2 FOCUS-IN: Press the play key without loading a disc.

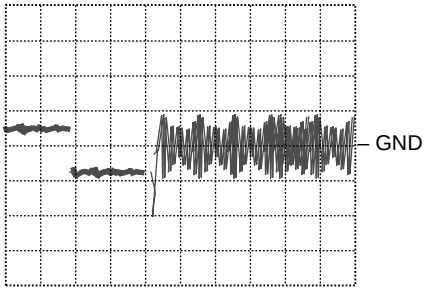
2 TP1-Pin 1: PLAY MODE (RF)
500mV/div 500nsec/div



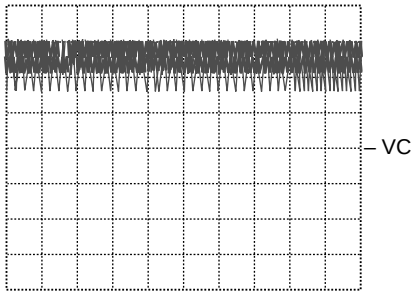
4' TP1-Pin 2: 50T - JUMP (*1) MODE (TRER)
200mV/div 1msec/div



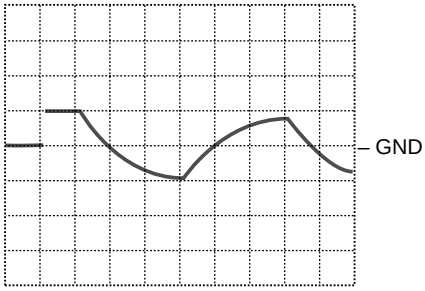
6' IC202-Pin 3: 50T - JUMP (*1) MODE (TRDR)
500mV/div 1msec/div



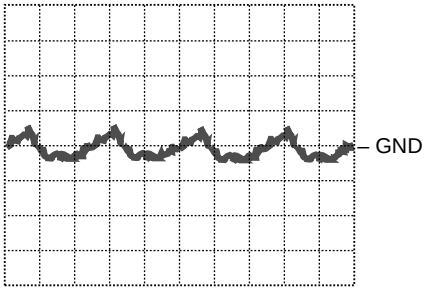
2 TP1-Pin 1: TRACK SEARCH MODE (RF)
500 mV/div 200 µsec/div



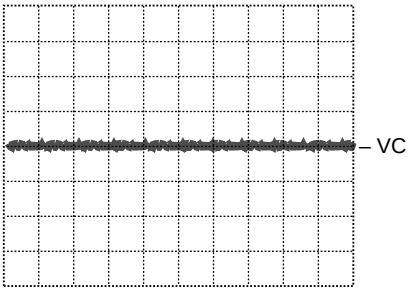
5 IC202-Pin 4: FOCUS-IN (*2) MODE (FODR)
1V/div 200msec/div



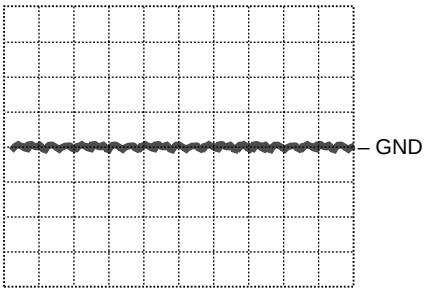
7 IC201-Pin 9: PLAY MODE (SPDR)
1V/div 50msec/div



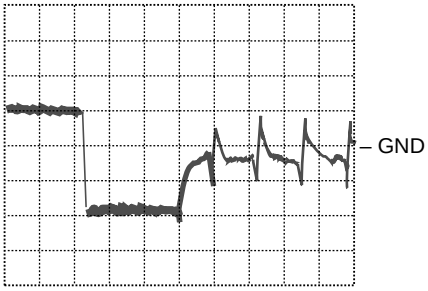
3 TP1-Pin 6: PLAY MODE (FOER)
100mV/div 10msec/div



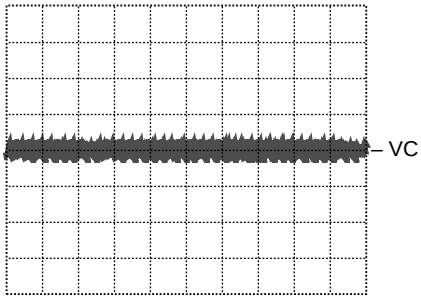
5 IC202-Pin 4: PLAY MODE (FODR)
1V/div 1msec/div



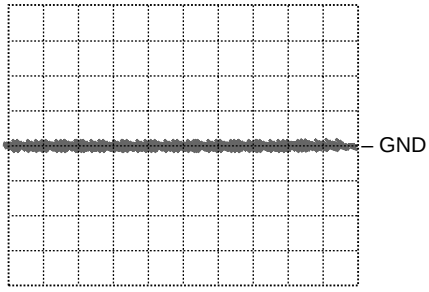
7 IC201-Pin 9: TRACK SEARCH MODE (SPDR)
2V/div 50msec/div



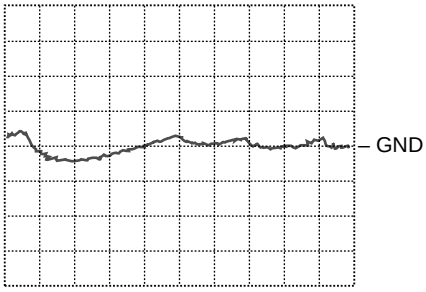
4 TP1-Pin 2: PLAY MODE (TRER)
200mV/div 1msec/div



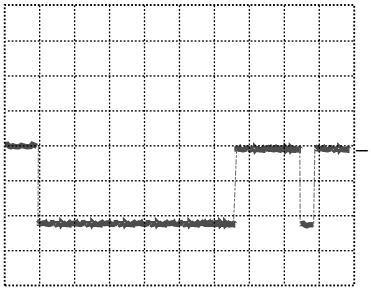
6 IC202-Pin 3: PLAY MODE (TRDR)
500mV/div 1msec/div



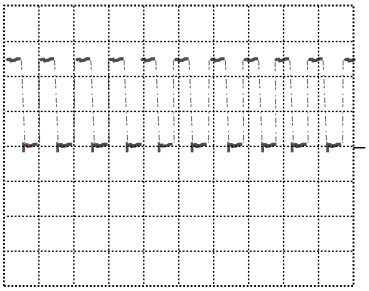
8 IC202-Pin 9: PLAY MODE (CADR)
0.2V/div 2sec/div



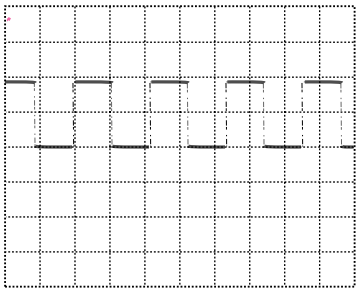
8 IC202-Pin 9: TRACK SEARCH MODE
(CADR)
2V/div 200msec/div



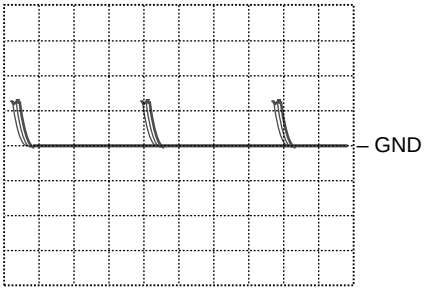
16 IC301-Pin 54 : PLAY MODE (1kHz)
(BCK)
2V/div 500nsec/div



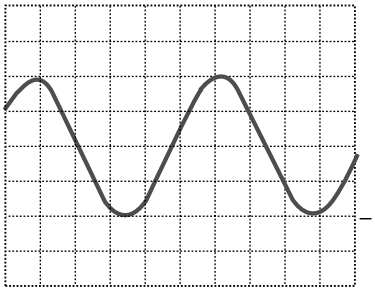
18 IC301-Pin 50 : PLAY MODE (1kHz)
(LRCK)
2V/div 10 µsec/div



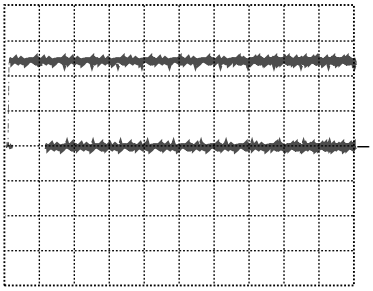
33 IC301-Pin 27 : PLAY MODE (MDP)
2V/div 2 µsec/div



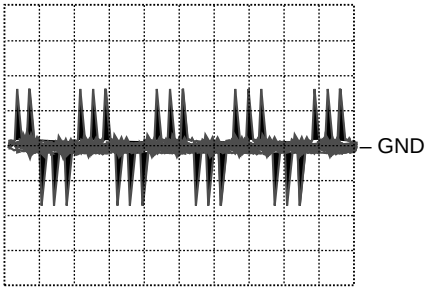
10 IC401-Pin 10 : PLAY MODE (1kHz)
(LO) .....WPWXJ
IC301-Pin 86 : PLAY MODE (1kHz)
(LOUT1) .....RDXJ
1V/div 200msec/div



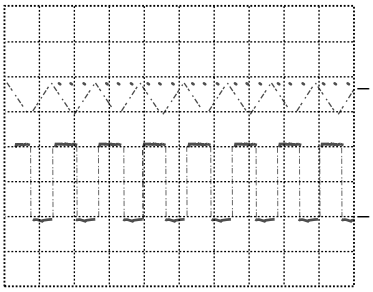
19 IC301-Pin 52 : PLAY MODE (1kHz)
(PCMD)
2V/div 500nsec/div



53 IC301-Pin 38 : PLAY MODE
(PCO)
2V/div 10 µsec/div

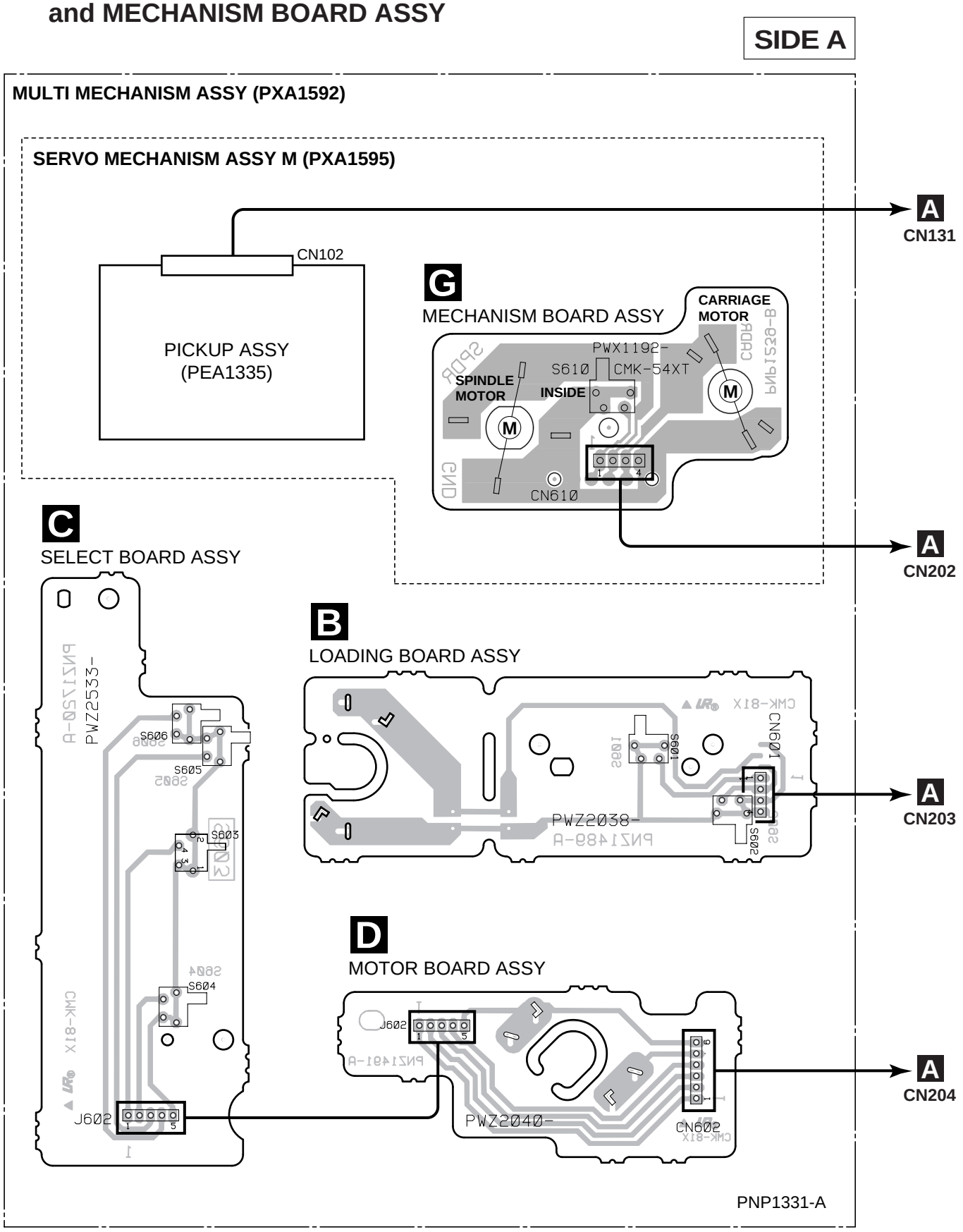


23 TRACK SEARCH MODE
Upper : TP1-Pin 1 (RF) 1V/div
Lower : IC151-Pin 23 (C.OUT)
2V/div 50 µsec/div

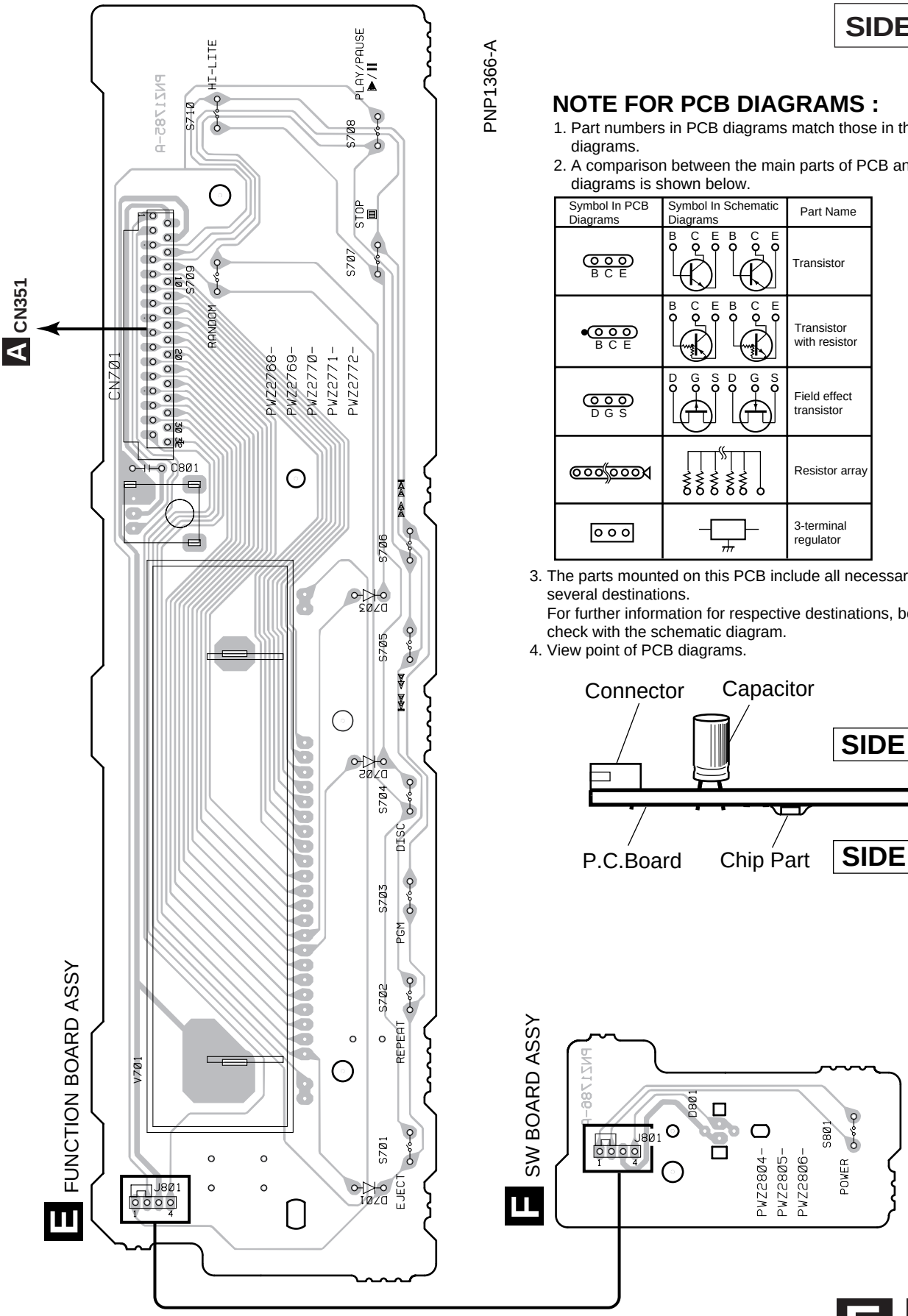


4. PCB CONNECTION DIAGRAM

4.1 LOADING BOARD ASSY, SELECT BOARD ASSY, MOTOR BOARD ASSY and MECHANISM BOARD ASSY



4.2 FUNCTION BOARD ASSY and SW BOARD ASSY



NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

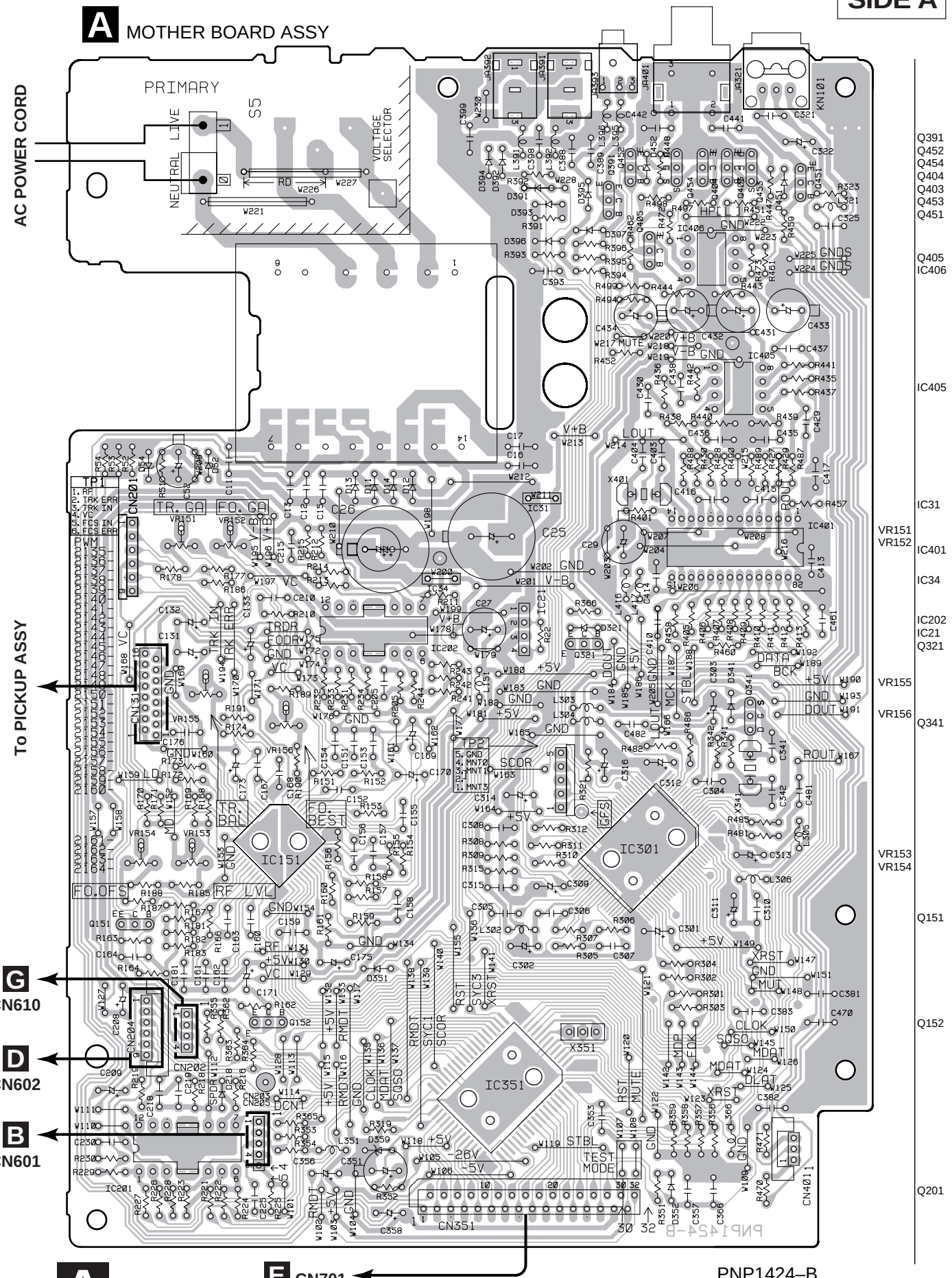
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

4.3 MOTHER BOARD ASSY

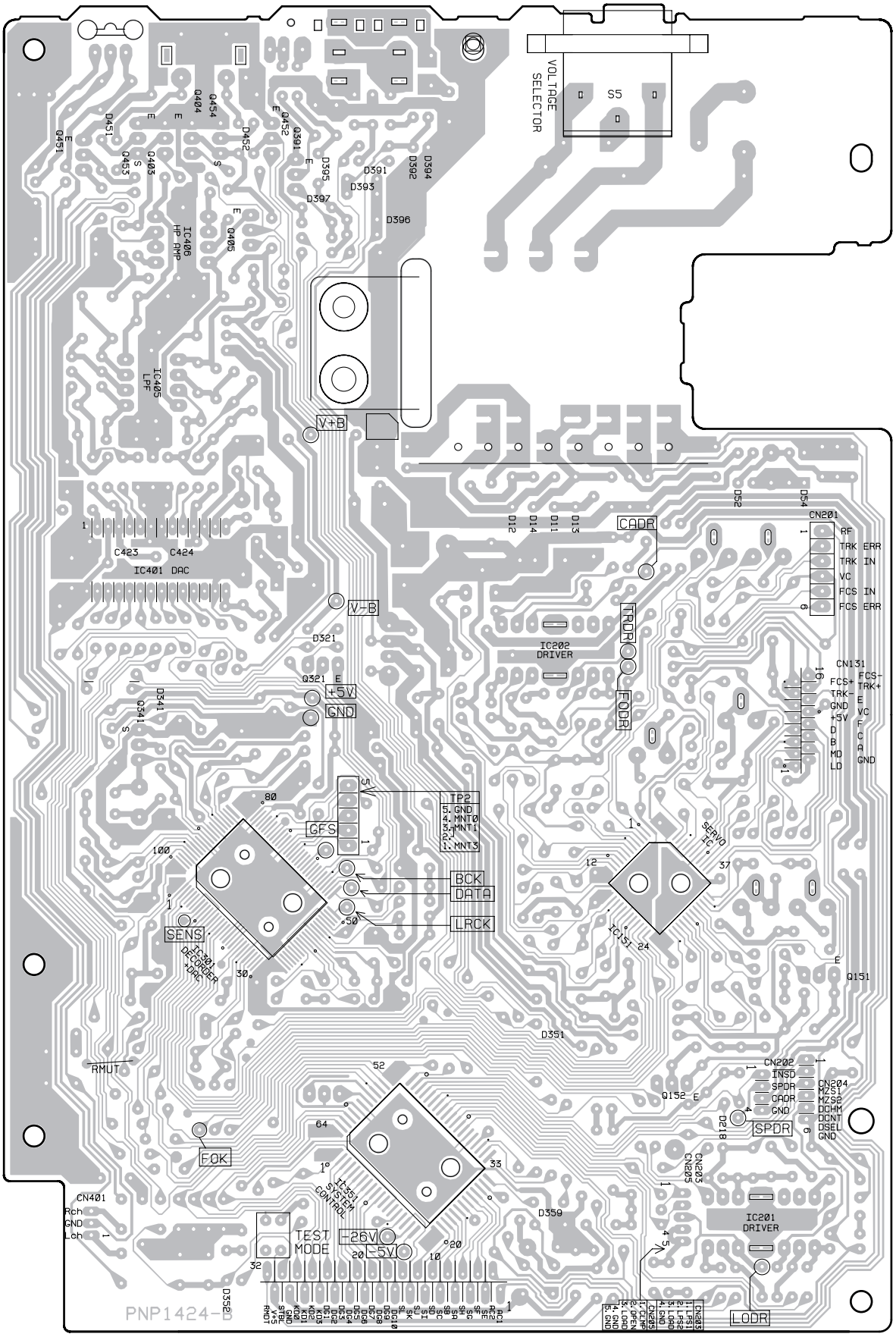
SIDE A

A MOTHER BOARD ASSY



SIDE B

A MOTHER BOARD ASSY



IC301
IC151

IC351

PNP1424–B

5. PCB PARTS LIST

NOTES :
- *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.				Remarks
		PD-M427 / WPWXJ	PD-M427 / RDXJ	PD-M407 / WPWXJ	PD-M407 / RDXJ	
⚠	MOTHER BOARD ASSY	PWM2156	PWM2155	PWM2153	PWM2152	
NSP	SUB BOARD ASSY	PWX1337	PWX1337	PWX1335	PWX1335	
	├ FUNCTION BOARD ASSY	PWZ2769	PWZ2769	PWZ2768	PWZ2768	
NSP	└ SW BOARD ASSY	PWZ2805	PWZ2805	PWZ2805	PWZ2805	
NSP	MULTI MECHANISM ASSY	PXA1592	PXA1592	PXA1592	PXA1592	
NSP	├ MECHA BOARD ASSY	PWX1279	PWX1279	PWX1279	PWX1279	
NSP	├ LOADING BOARD ASSY	PWZ2038	PWZ2038	PWZ2038	PWZ2038	
NSP	├ MOTOR BOARD ASSY	PWZ2040	PWZ2040	PWZ2040	PWZ2040	
NSP	└ SELECT BOARD ASSY	PWZ2533	PWZ2533	PWZ2533	PWZ2533	
NSP	└ SERVO MECHANISM ASSY M	PXA1595	PXA1595	PXA1595	PXA1595	
NSP	└ MECHANISM BOARD ASSY	PWX1192	PWX1192	PWX1192	PWX1192	

■ CONTRAST OF PCB ASSEMBLIES

FUNCTION BOARD ASSY

PWZ2769 and PWZ2768 are constructed the same except for the following:

Mark	Symbol and Description	Part No.		Remarks
		PWZ2769	PWZ2768	
	CN701	9607S–32F	9607S–30F	
	Remote Sensor	SBX1785–51	Not used	

MOTHER BOARD ASSY

PWM2156, PWM2155, PWM2153 and PWM2152 are constructed the same except for the following:

Mark	Symbol and Description	Part No.				Remarks
		PWM2156	PWM2155	PWM2153	PWM2152	
	IC401	PD2026B (L)	Not used	PD2026B (L)	Not used	
	Q341	Not used	2SK246	Not used	2SK246	
	D341, D391–D394	Not used	1SS254	1SS254	1SS254	
	L391	Not used	LAU1R0J	LAU1R0J	LAU1R0J	
⚠	S5	Not used	PSB1006	Not used	PSB1006	

MOTHER BOARD Assy

Mark	Symbol and Description	Part No.				Remarks
		PWM2156	PWM2155	PWM2153	PWM2152	
	C29, C461	CKCYF103Z50	Not used	CKCYF103Z50	Not used	
	C312, C313	CKCYF103Z50	CEAS101M10	CKCYF103Z50	CEAS101M10	
	C341, C342	Not used	CCCCH120J50	Not used	CCCCH120J50	
	C393	Not used	CCCSL101J50	CCCSL101J50	CCCSL101J50	
	C399	Not used	Not used	CKCYF103Z50	Not used	
	C403	CCCCH120J50	Not used	CCCCH120J50	Not used	
	C404	CCCCH220J50	Not used	CCCCH220J50	Not used	
	C413– C416	CFTXA104J50	Not used	CFTXA104J50	Not used	
	C429, C430, C435– C438	CCCSL390J50	Not used	CCCSL390J50	Not used	
	C431, C432	CEAT330M16	Not used	CEAT330M16	Not used	
	C481, C482	Not used	CCCSL390J50	Not used	CCCSL390J50	
	R310– R312	RD1/4PU221J	Not used	RD1/4PU221J	Not used	
	R341	Not used	RD1/4PU271J	Not used	RD1/4PU271J	
	R342, R366	Not used	RD1/4PU105J	Not used	RD1/4PU105J	
	R391	Not used	PD1/4PU244J	PD1/4PU244J	PD1/4PU244J	
	R392	Not used	RD1/4PU102J	RD1/4PU102J	RD1/4PU102J	
	R401	RD1/4PU102J	Not used	RD1/4PU102J	Not used	
	R405– R410	RD1/4PU471J	Not used	RD1/4PU471J	Not used	
	R411– R413	RD1/4PU221J	Not used	RD1/4PU221J	Not used	
	R427– R430	RD1/4PU223J	Not used	RD1/4PU223J	Not used	
	R435, R436	RD1/4PU163J	Not used	RD1/4PU163J	Not used	
	R437, R438	RD1/4PU163J	RD1/4PU473J	RD1/4PU163J	RD1/4PU473J	
	R439– R442	RD1/4PU433J	RD1/4PU823J	RD1/4PU433J	RD1/4PU823J	
	R481, R482, R485, R486	Not used	RD1/4PU223J	Not used	RD1/4PU223J	
	R487– R490	Not used	RD1/4PU104J	Not used	RD1/4PU104J	
	JA391, JA392	Not used	RKN1004	RKN1004	RKN1004	
	CN351	HLEM32S-1	HLEM32S-1	HLEM30S-1	HLEM30S-1	
	X341 (16.9344MHz)	Not used	PSS1008	Not used	PSS1008	
	X401 (16.9344MHz)	PSS1008	Not used	PSS1008	Not used	

■ PARTS LIST FOR PD-M427/WPWXJ

Mark	No.	Description	Parts No.
A		**MOTHER BOARD ASSY**	
		SEMICONDUCTORS	
	IC151		CXA1782CQ
	IC301		CXD2519Q
⚠	IC31, IC34		ICP–N10
⚠	IC201, IC202		LA6520
	IC405		NJM4558D–D
	IC401		PD2026B(L)
	IC351		PD4836A
⚠	IC21		PQ05RR12
	Q151		2SA854S
	Q403, Q404		2SD2144S
	Q152		DTA124ES
	Q405		DTC124ES
	D352		1SS254
	D54		MTZJ18B
	D359		MTZJ5.1B
	D218		MTZJ6.2B
⚠	D11–D14, D52		S5688G
		COILS AND FILTERS	
	L351	AXIAL INDUCTOR	LAU100J
		CAPACITORS	
	C181		CCCCH100D50
	C403		CCCCH120J50
	C404		CCCCH220J50
	C383		CCCSL181J50

Mark	No.	Description	Parts No.
	C315		CCCSL221J50
	C429, C430, C435, C436, C437		CCCSL390J50
	C438		CCCSL390J50
	C171, C175, C302, C311, C314		CEAS101M10
	C316		CEAS101M10
	C52		CEAS101M35
	C26		CEAS102M16
	C433, C434		CEAS220M25
	C131– C133, C27		CEAS330M16
	C25		CEAS332M16
	C351		CEAS471M6R3
	C169, C170, C356		CEAS4R7M50
	C309		CEASR47M50
	C431, C432		CEAT330M16
	C413, C414, C415, C416		CFTXA104J50
	C156, C161, C164, C168, C218		CGCYX103K25
	C160		CGCYX333K25
	C167		CGCYX472K25
	C152, C307		CGCYX473K25
	C157		CGCYX823K25
	C163		CKCYB102K50
	C176, C306, C441, C442		CKCYB152K50
	C305		CKCYB222K50
	C162		CKCYB332K50
	C151		CKCYB682K50
⚠	C11, C13, C15, C16, C17		CKCYF103Z50
	C29, C159, C205, C210, C215		CKCYF103Z50
	C219, C301, C304, C310– C313		CKCYF103Z50
	C353, C357, C461		CKCYF103Z50
	C153– C155, C158		CQMA104J50

RESISTORS

	VR153, VR155 (10k Ω)		RCP1045
	VR151, VR152, VR154 (22k Ω)		RCP1046
	VR156 (220k Ω)		RCP1049
	Other Resistors		RD1/4PU□□□J

OTHERS

	CN131	1mm CONNECTOR	SLW16S–1C7
	CN202	MT 4P CONNECTOR	173981–4
	CN203	CONNECTOR 4P	4–173981–4
	CN204	6P JUMPER CONNECTOR	52147–0610
	CN351	32P FFC CONNECTOR	HLEM32S–1
	JA401	2P PIN JACK	PKB1023
	X401	XTAL RES(16.9344 MHz)	PSS1008
⚠		TERMINAL	RKC–061
	CN201	CONNECTOR 6P	RKP–533
	X351	CERAMIC RES(4.19 MHz)	VSS1014

E FUNCTION BOARD ASSY

SEMICONDUCTOR

	D701– D703		1SS133X

SWITCHES

	S701– S710		PSG1006

Mark	No.	Description	Parts No.

OTHERS

	CN701	FFC CONNECTOR 32P	9607S–32F
	V701	FL INDICATOR TUBE	PEL1084
		REMOTE SENSOR	SBX1785–51

F SW BOARD ASSY

SEMICONDUCTOR

	D801		PCX1019

SWITCH

	S801		PSG1006

OTHER

	J801	2mm JUMPER WIRE	D20PWW0420E

B LOADING BOARD ASSY

SWITCHES

	S601, S602		DSG1016

OTHER

	CN601	CONNECTOR 4P	4–173979–4

D MOTOR BOARD ASSY

OTHER

	CN602	6PJUMPER CONNECTOR	52151–0610

C SELECT BOARD ASSY

SWITCHES

	S604–S606		DSG1016
	S603		PSG1010

G MECHANISM BOARD ASSY

SWITCH

	S610		DSG1016

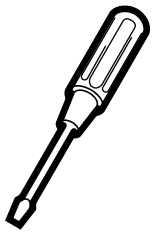
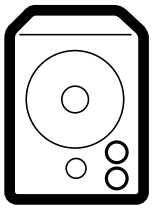
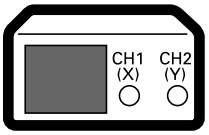
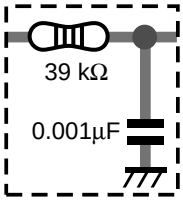
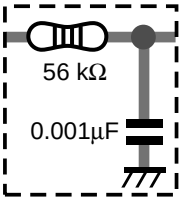
OTHER

	CN610	MT 4P CONNECTOR	173979–4

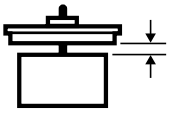
6. ADJUSTMENT

6.1 PREPARATIONS

6.1.1 Jigs and Measuring Instruments

 CD TEST DISC (YEDS-7)	 ⊖ Precise screwdriver	 ⊖ screwdriver (small)	 ⊕ screwdriver (medium)	 ⊕ screwdriver (large)
 Ball point hexagon wrench (size: 1.5mm) GGK1002	 Low-frequency oscillator	 Dual-trace oscilloscope (10 : 1 probe)	 Low pass filter ① (39 kΩ + 0.001µF)	 Low pass filter ② (56 kΩ + 0.001µF)

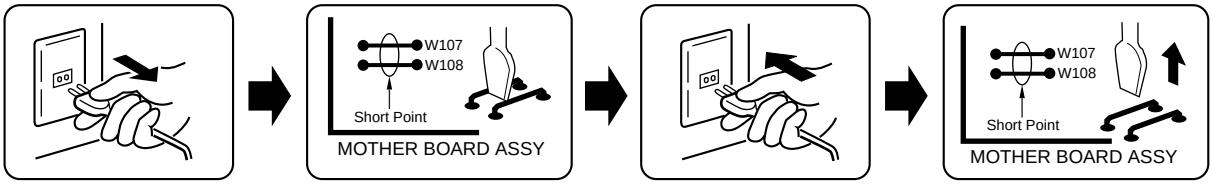
6.1.2 Necessary Adjustment Points

When	Adjustment points
Exchange PICKUP	1.2.3.4.5.6.7. 8.9.10.11.12 → Page 23~28
Exchange MAIN BOARD ASSY	1.3.5.6.7.8. 9.10.11.12 → Page 23~28
Exchange SERVO MECH ASSY	1.2.3.4.5.6.7. 8.9.10.11.12 → Page 23~28
Exchange SPINDLE MOTOR	 ADJ → Page 9

6.2 ADJUSTMENT

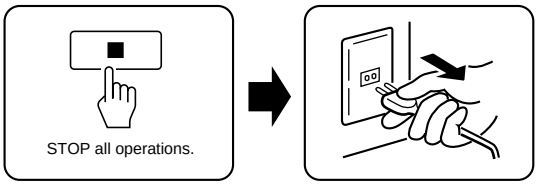
6.2.1 How to Start/Cancel Test Mode

TEST MODE : ON

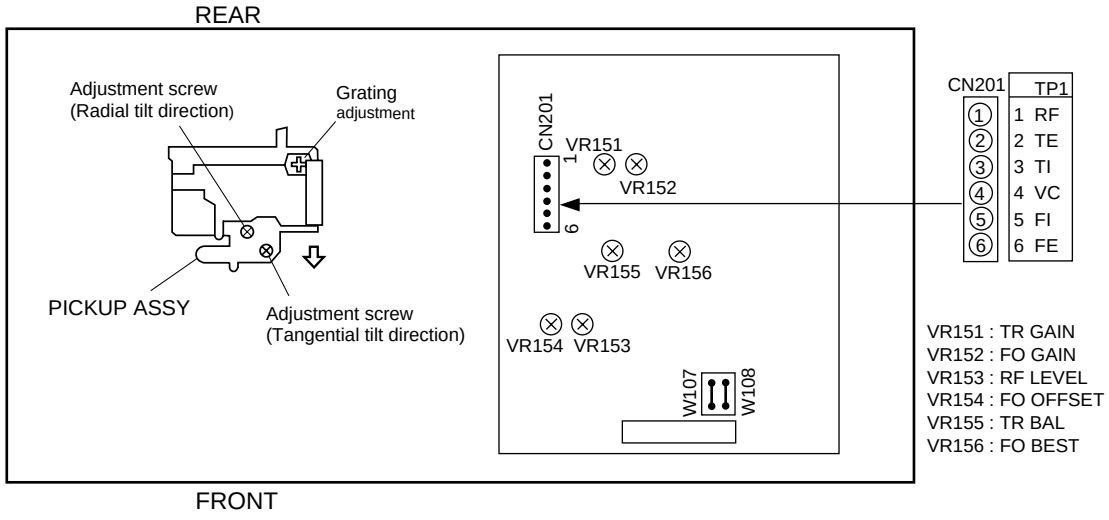


TEST MODE : PLAY

TEST MODE : STOP → CANCEL

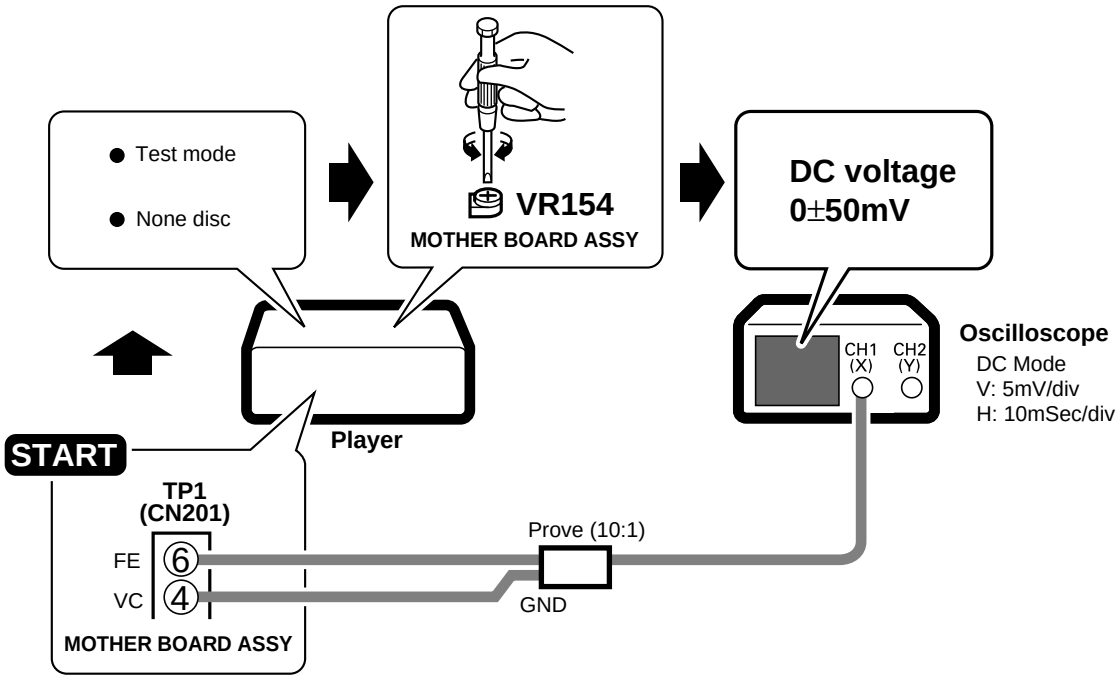


6.2.2 Adjustment Location

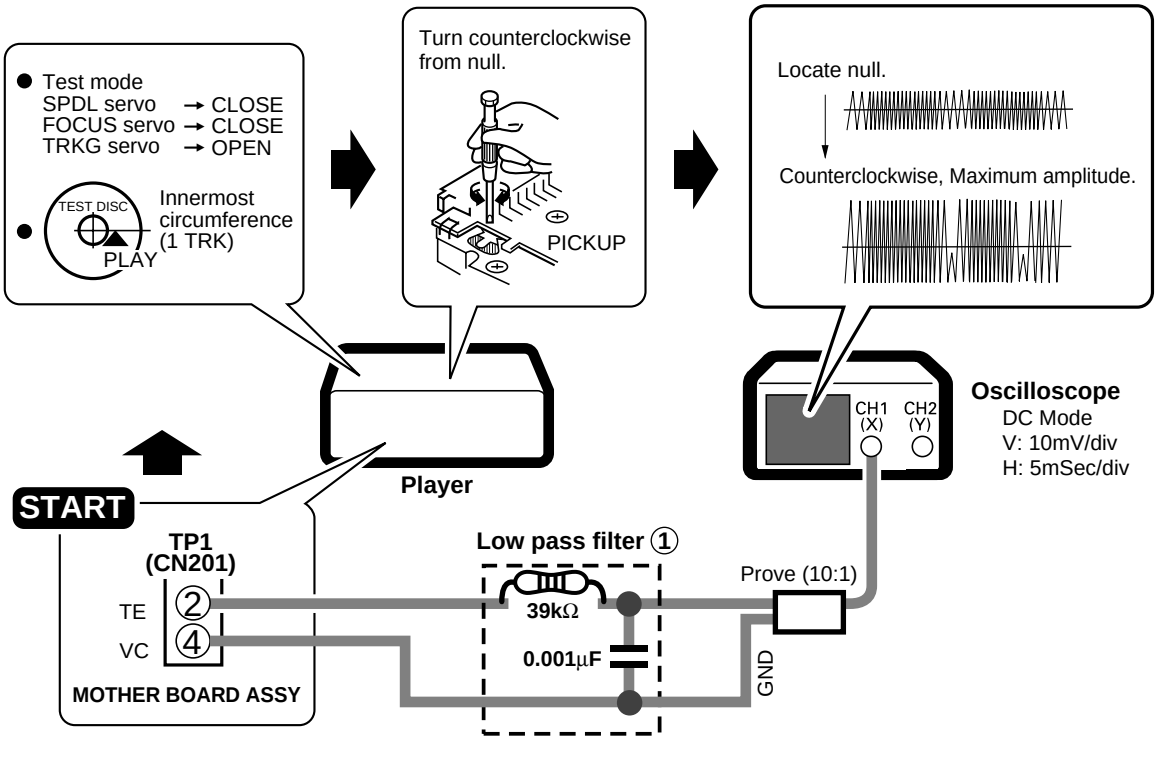


6.2.3 Check and Adjustment

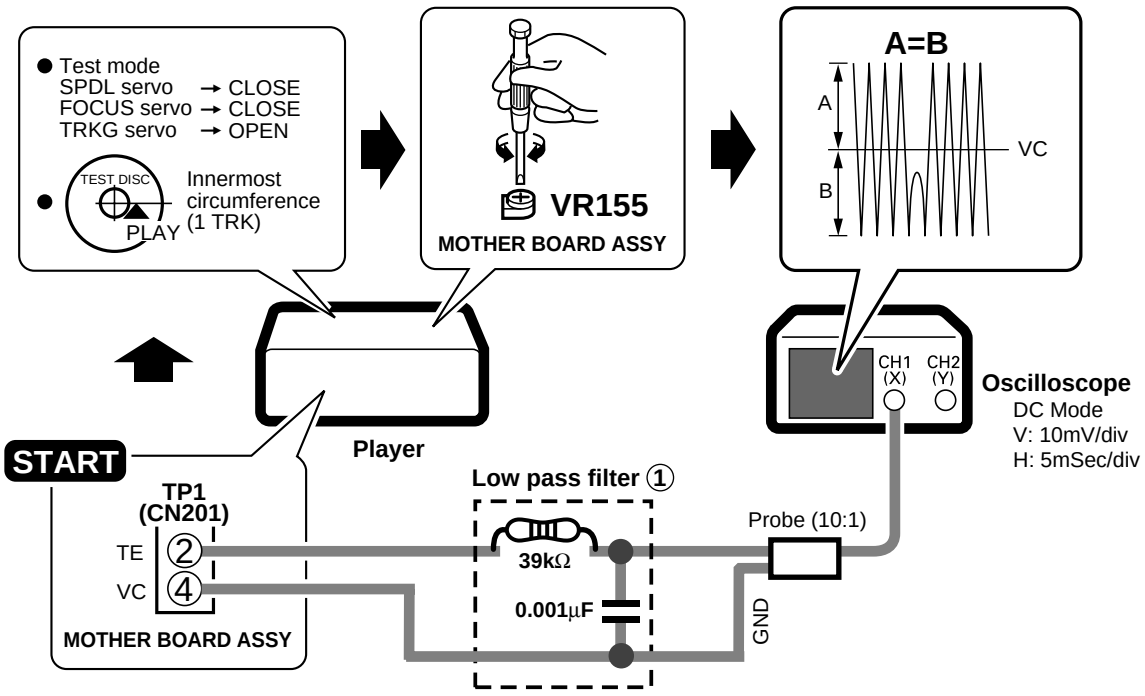
1. Focus Offset Adjustment



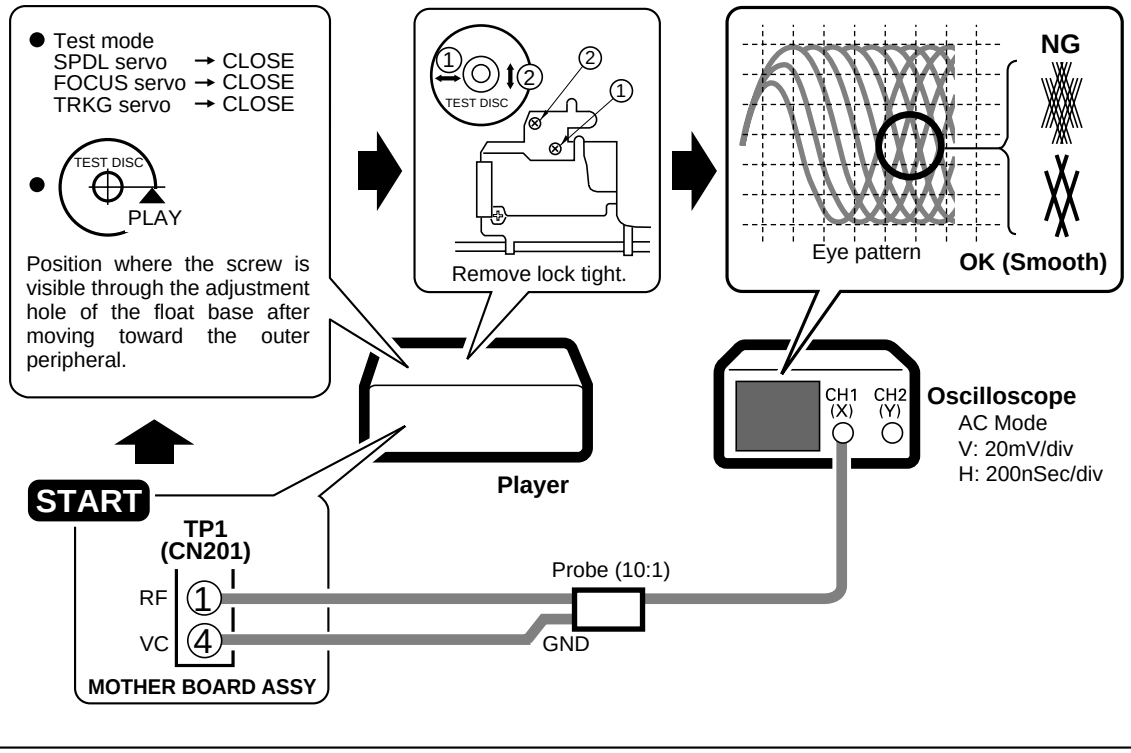
2. Grating Adjustment



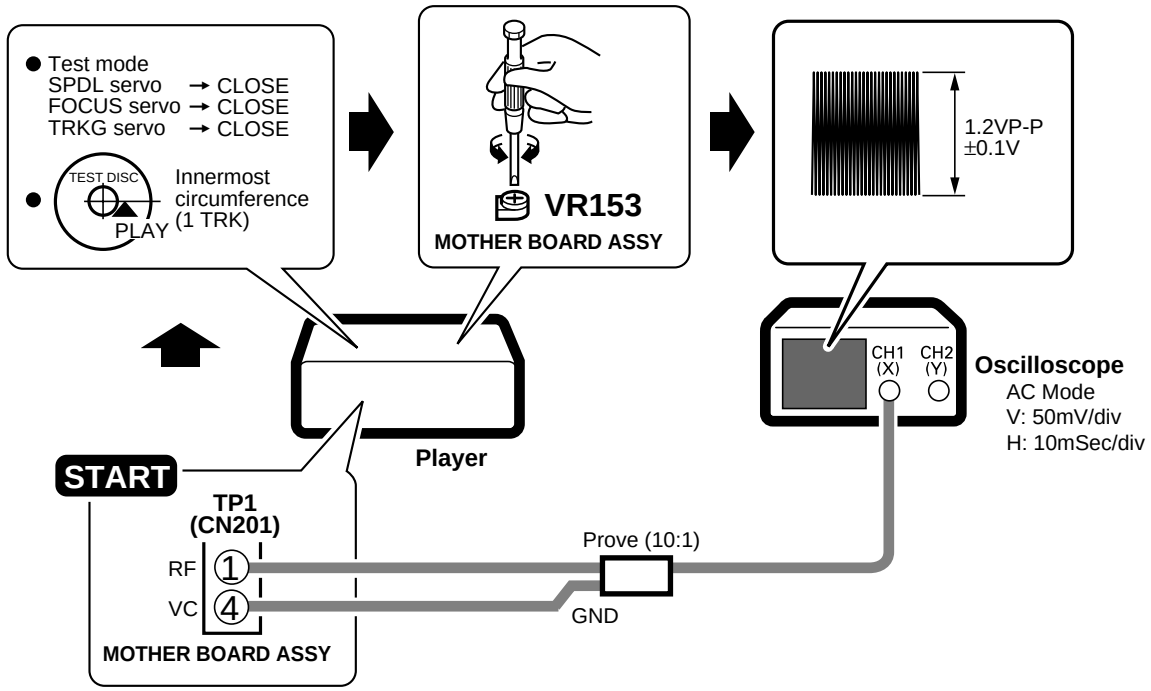
3. Tracking Error Balance Adjustment



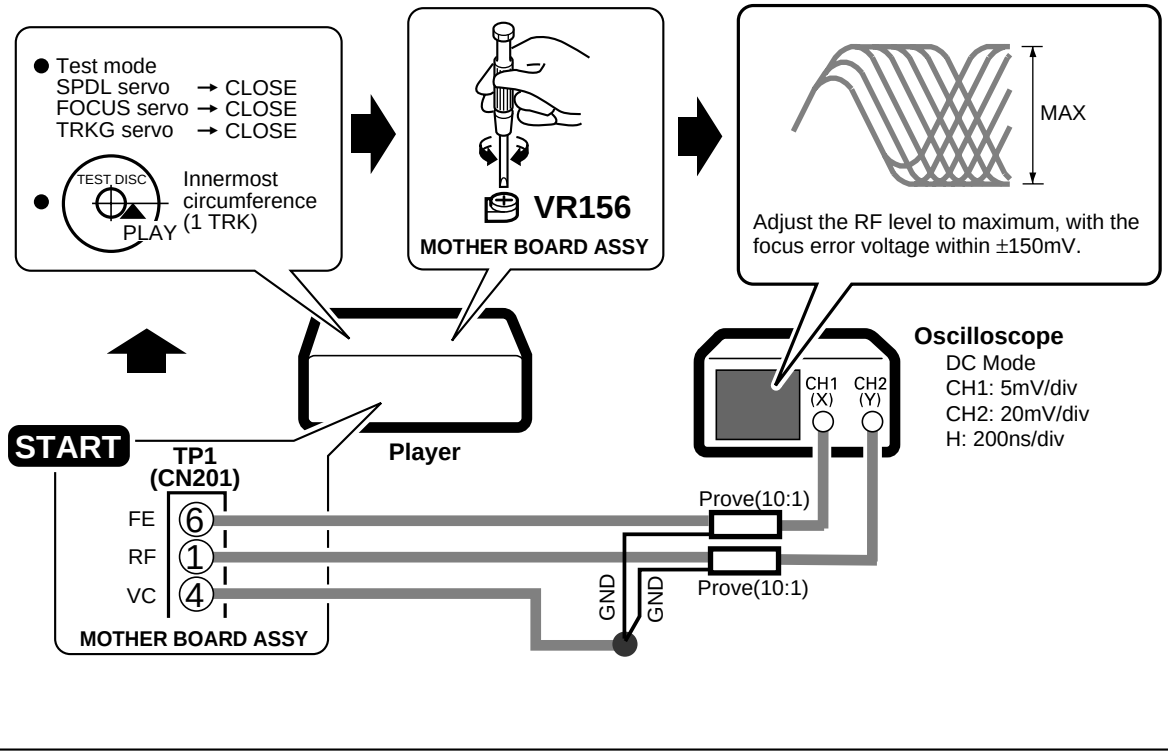
4. Pickup ①Radial ②Tangential Direction Tilt Adjustment



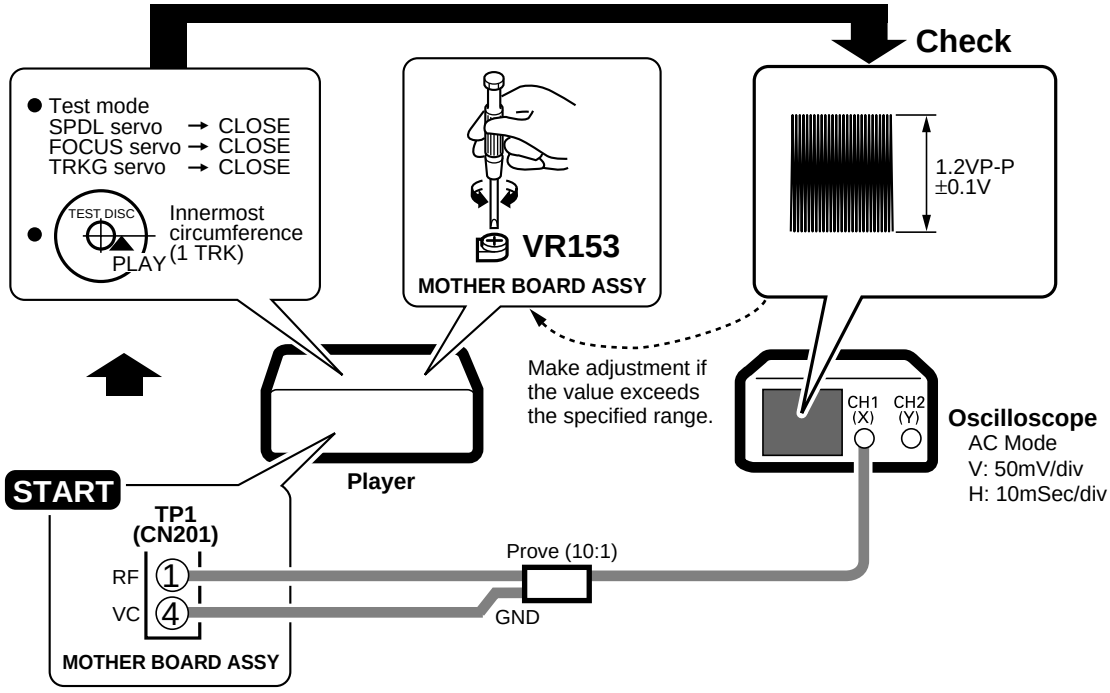
5. RF Level Adjustment Ⅰ



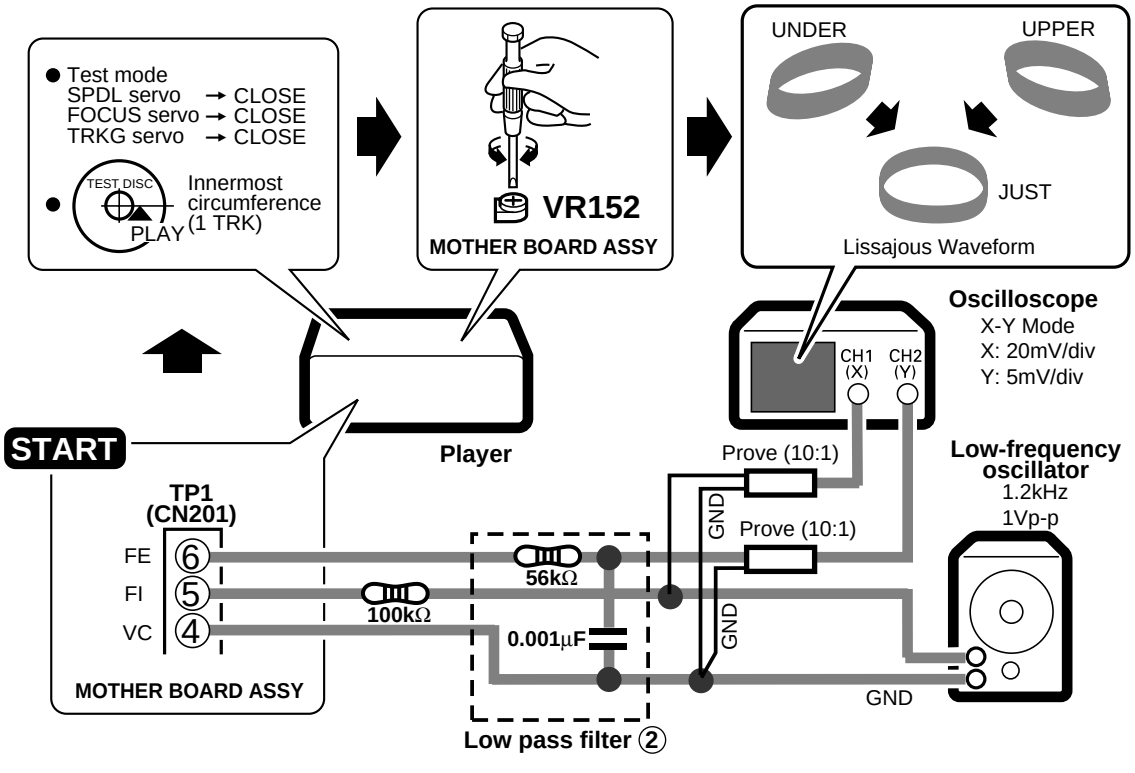
6. Focus Best Adjustment Ⅰ



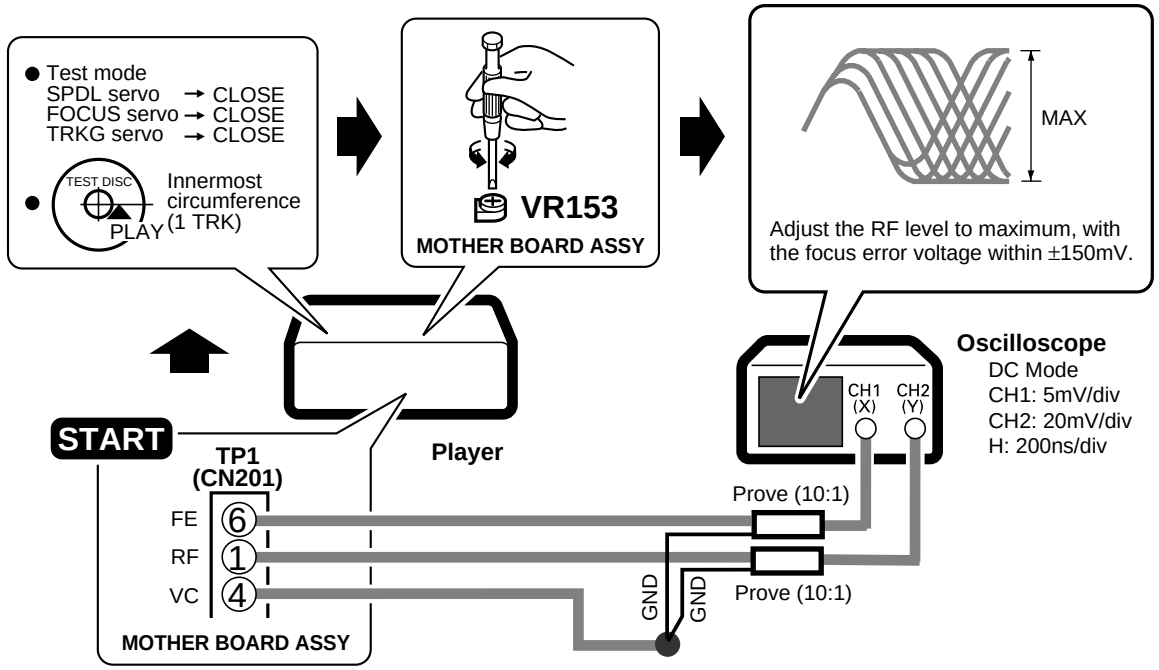
7. RF Level Adjustment Ⅱ



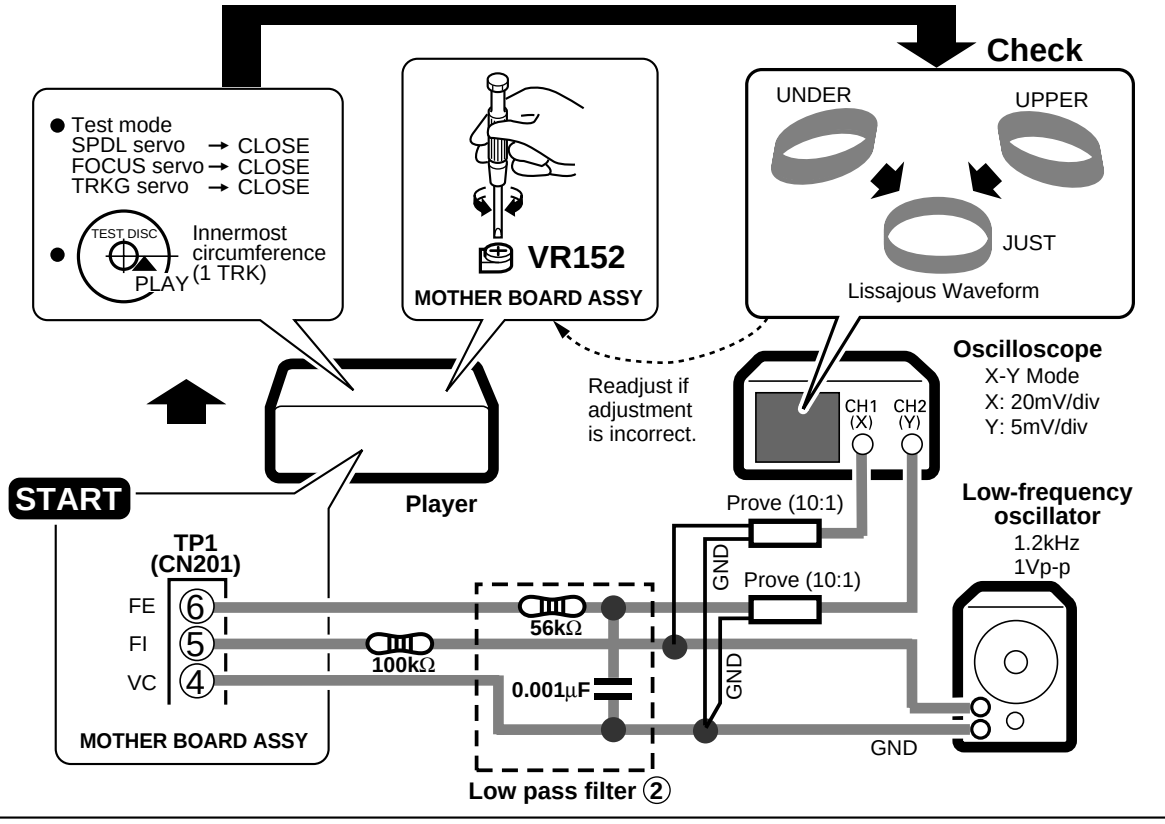
8. Focus Servo Loop Gain Adjustment Ⅰ



9. Focus Best Adjustment Ⅱ

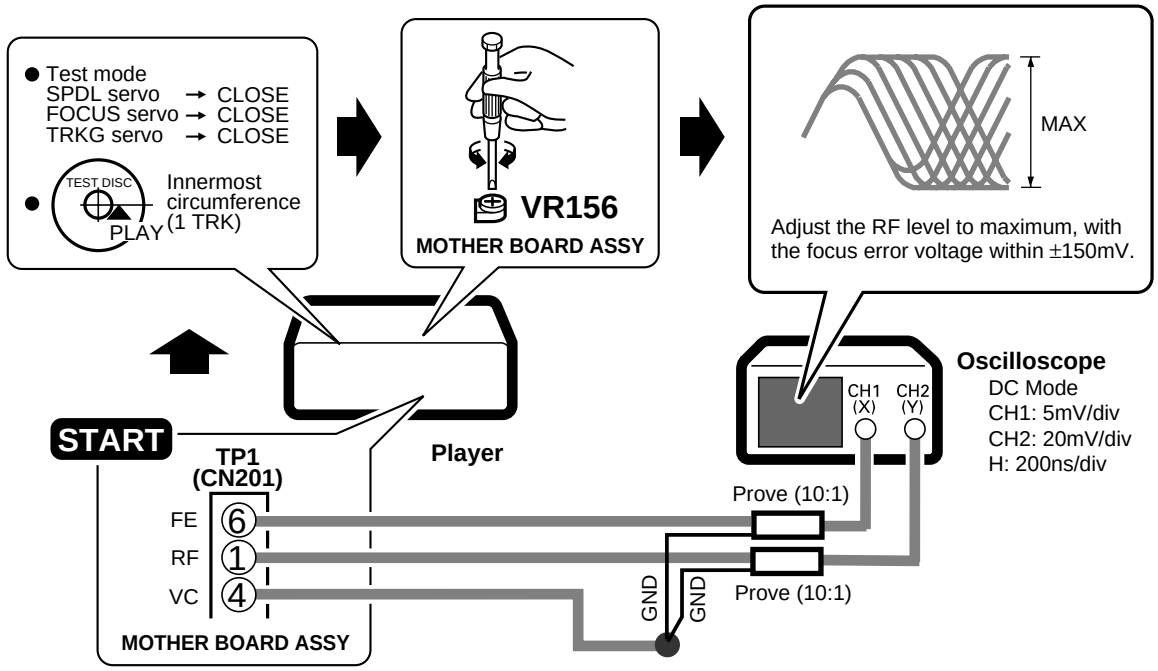


10. Focus Servo Loop Gain Adjustment Ⅱ

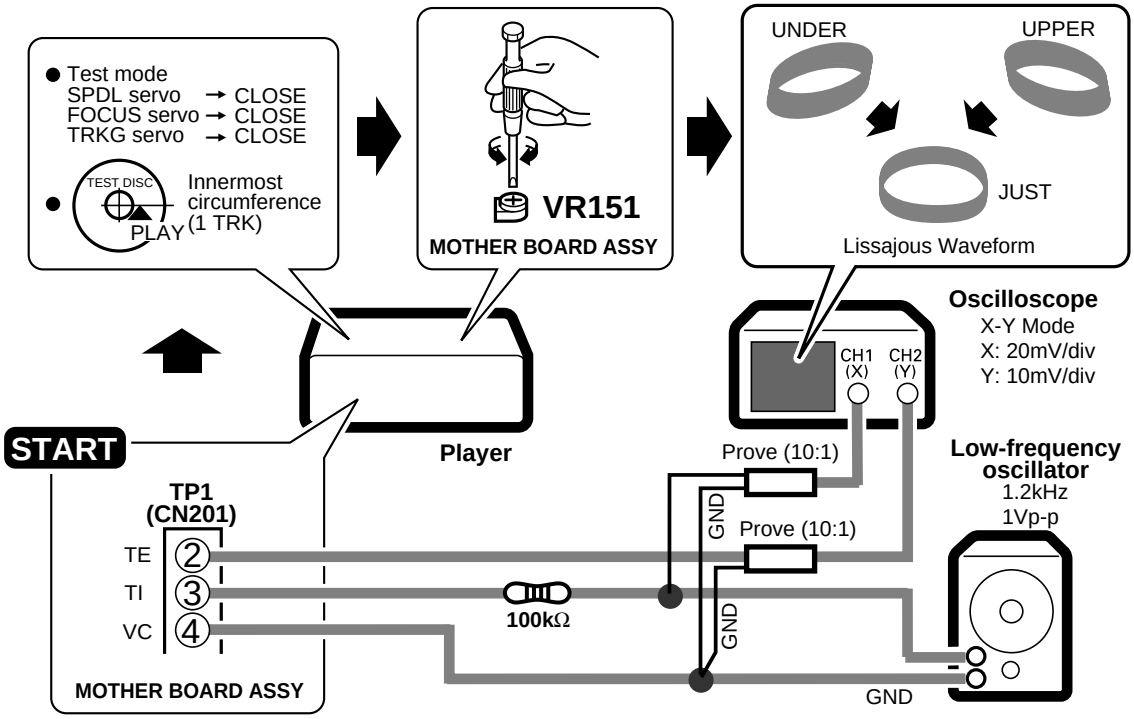


11. Focus Best Adjustment Ⅲ

Adjust this point only if adjustment was made in item 10.



12. Tracking Servo Loop Gain Adjustment

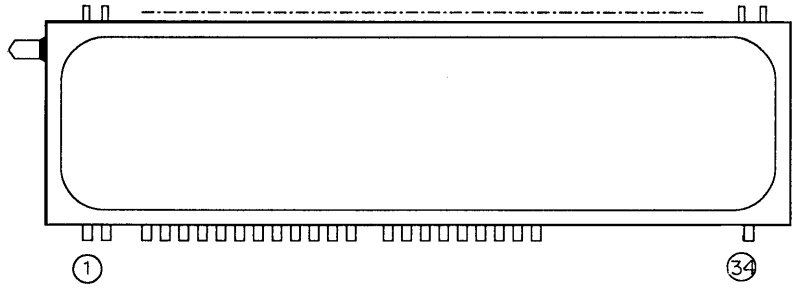


7. GENERAL INFORMATION

7.1 DISPLAY

■ PEL1084 (V701: FUNCTION BOARD ASSY)

● Pin Assignment

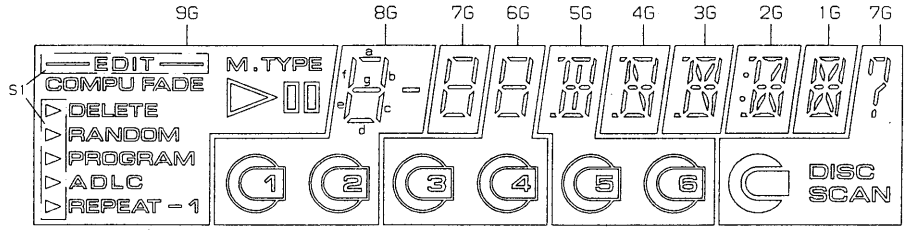


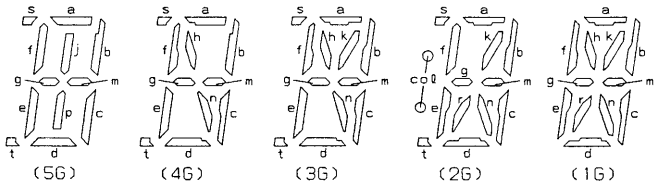
● Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
CONNECTION	F1	F1	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	NX	9G	8G	7G	6G	5G	4G	3G	2G	1G	NX	NX	NX	NX	NX	NX	NP	NX	F2

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NX ------ No extend pin
4) 1G~9G --- Grid

● Grid Assignment



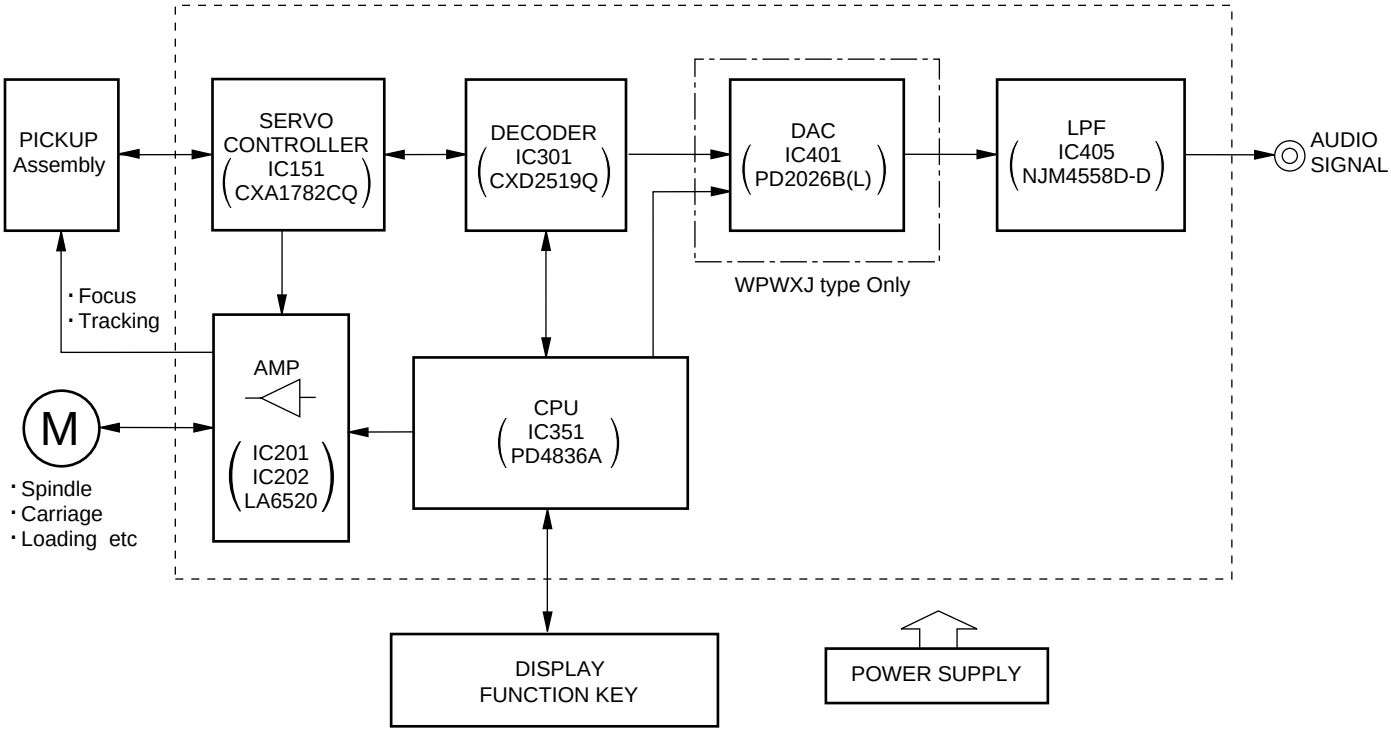


● Anode Connection

	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	RANDOM	e	e	e	e	e	e	e	e
P2	FADE	f	f	f	f	f	f	f	f
P3	COMPU	g	g	g	g,m	g	g,m	g,m	g
P4	□□	–	?	–	s,t	m	s,t	s,t	m
P5	M.TYPE	a	a	a	a	a	a	a	a
P6	S1	b	b	b	b	b	b	b	b

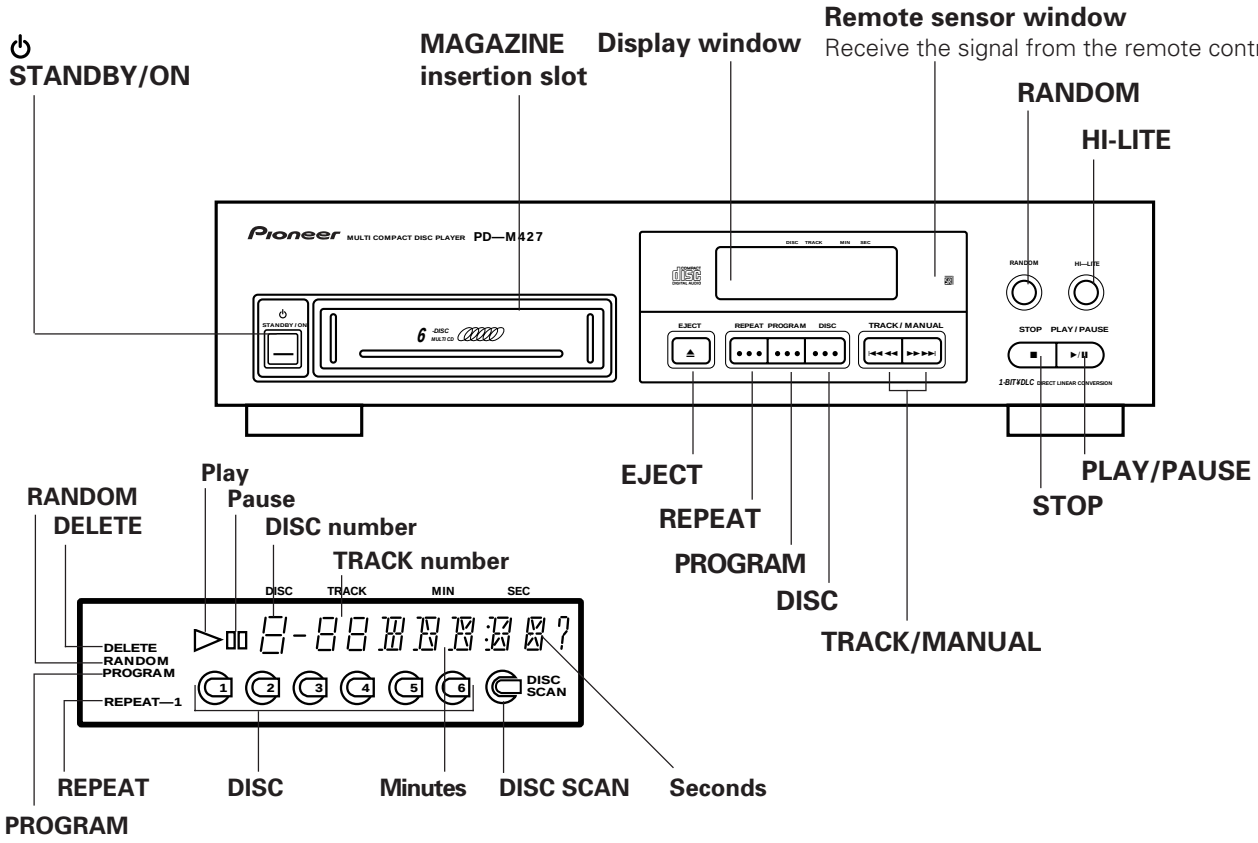
	9G	8G	7G	6G	5G	4G	3G	2G	1G
P7	DELETE	c	c	c	c	c	c	c	c
P8	PROGRAM	d	d	d	d	d	d	d	d
P9	▷	–	DISC	–	j,p	h	h	col	h
P10	ADLC	–	SCAN	–	–	s	k	k	k
P11	-1	1	C	3	5	n	n	n	n
P12	REPEAT	2	□	4	6	t	–	r	r

7.2 BLOCK DIAGRAM

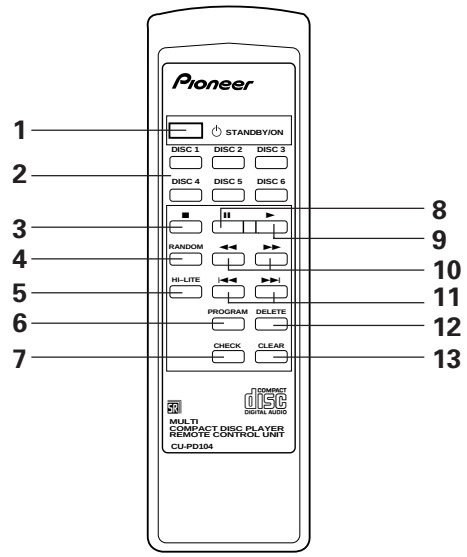


8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES



REMOTE CONTROL UNIT



(PD-M427 Only)

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.

1 ⏻ STANDBY/ON button
2 DISC NUMBER buttons (DISC 1-DISC 6)
3 STOP button (■)
4 RANDOM button
5 HI-LITE SCAN button
6 PROGRAM button
7 CHECK button
8 PAUSE button
9 PLAY button (►)
10 MANUAL search buttons (◄◄ , ►►)
11 TRACK search buttons (|◄◄ , ►►|)
12 DELETE button
13 CLEAR button

■ SPECIFICATIONS

General

Type ..... Compact disc digital audio system
Power requirements
Multi-voltage model ..... AC 110-127/220-240 V (Switchable), 50/60Hz
Australian and New Zealand models ..... AC 220-240 V, 50/60Hz
Power consumption
Australian and New Zealand models ..... 12 W
Operating temperature ..... +5°C-+35°C (+41°F– +95°F)
Weight (without package) ..... 3.7 kg (8 lb, 3 oz.)
External dimensions ..... 420(W) x 294 (D) x 105 (H) mm 16-9/16 (W) x 11-9/16 (D) x 4-1/8 (H) in

Audio section

Frequency response ..... 2 Hz – 20 kHz
Output voltage ..... 2.0 V
Wow and flutter ..... Limit of measurement (0.001% W.PEAK) or less (EIAJ)
Channels ..... 2-channel (stereo)

Output terminal

Audio line output
Control input/output jacks

Accessories

- Remote control unit (PD-M427 only) 1
- Size AAA/R03 dry cell batteries (PD-M427 only) 2
- Six-compact-disc magazine 1
- Control cable 1
- Output cable 1
- Operating instructions 1

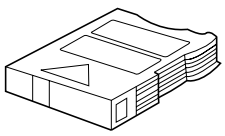
NOTE:

Specifications and design subject to possible modification without notice, due to improvements.

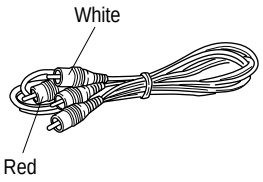
The Magazine Type Multi CD Players with mark and the Magazines with the same mark are compatible for 5 inch (12 cm) discs.

Accessories

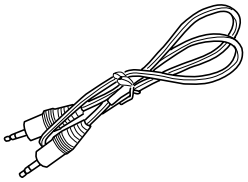
- Operating instructions



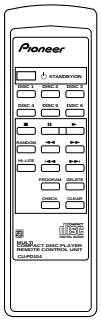
6-Compact disc magazine (PXA1617)



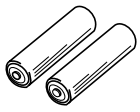
Output cable (PDE1248) (L= 1 m)



Control cable (PDE1247) (L= 1 m)



Remote control unit (PWW1149) (CU-PD104)



Dry cell batteries (AAA/R03)

PD-M427 Only